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WING, C. E., M. D.

INDEX TO VOLUME CIII.

- Acland, H. W.** Public medicine in the United States and Japan, 309.
- Agnew, D. H.** Scalp lacerations and their management, 32; fracture of ribs, 32; ankylosis of elbow-joint following dislocation, in a medico-legal aspect, 33; phlegmonous phimosis, with venereal sore, 33; talipes varus, 34.
- Allen, D. P.** Fistula in ano, 110.
- Amory, R.** Recent progress in therapeutics, 271, 296; petroleum ointment, 494; saxolinum, 554.
- Anatomy.** The foramina of Monro, some questions of anatomical history, Wilder, B. G., 153; recent progress in anatomy, Dwight, T., 320; American anatomy acts, Hartwell, E. M., 381; pilo-nidal sinus, Hodges, R. M., 485, 493; microscopic specimens from wall of fistulous tract near the rectum, Cabot, A. T., 497; microscopic preparations from the diaphragm of a rabbit, Quincy, H. P., 497; the early American anatomists and the legal status of anatomy in Massachusetts before 1800, Hartwell, E. M., 538; Massachusetts laws regarding anatomical science, Hartwell, E. M., 544, 587; recent American anatomy acts, Hartwell, E. M., 608.
- Army.** Memorandum for information of persons desirous of entering the medical corps of the U. S. Army, 381; annual report of the surgeon-general of the army, 573.
- Ayer, J. B.** A case of intermittent fever originating in Western Massachusetts, 262.
- Baker, W. H.** Recent progress in gynecology, 30; massage in the treatment of uterine disease, 208.
- Baltimore.** Johns Hopkins University, 374; letter from Baltimore, 558.
- Bancroft, C. P.** Case of urethral stricture treated by Otis's method, 439, 496.
- Bartholow, R.** The transfer of sensations, 34; the physiological antagonism between medicines and between remedies and diseases, 499, 525, 538, 557, 581, 629.
- Beach, H. H. A.** Recent progress in Surgery, 589.
- Beard, G. M.** The asylums of Europe, 305.
- Bethune, G. A.** Eczema and its relations: a rambling sketch, 127.
- Bibliography.** Alt, A., Lectures on the human eye in its Normal and Pathological Conditions, 571; American Gynecological Society, Transactions, 327, 459; The Descriptive Atlas of Anatomy, 595; L'Année médicale, 1879, 208; Balfour, F. M., A Treatise on Comparative Embryology, 267; Bartholow, R., A Treatise on the Practice of Medicine, 503; Bartholow, R., *Spermatorrhoea: Its Causes, Symptoms, Results, and Treatment*, 644; Beard, George M., A Practical Treatise on Nervous Exhaustion (Neurasthenia), 643; Bigg, R. H., The Orthopragms of the Spine, 572; Brunton, T. L., Pharmacology and Therapeutics, or Medicine Past and Present, 60; Bulkley, L. D., The Skin in Health and Disease, 402; Carter, R. B., Eyesight, Good and Bad, 327; Cayley, W., Croonian Lectures, or Some Points in the Pathology and Treatment of Typhoid Fever, 547; Charitable and Beneficent Organizations of Boston, Directory of, together with Legal Suggestions, Health Hints, Suggestions to Visitors, etc., 503; Charlies and Corrections, Proceedings of Seventh Annual Conference, 1880, 429; Clapp, H. C., Is Consumption Contagious, and can it be transmitted by means of food, 572; Clarke, W. F., A Manual of the Practice of Surgery, 402; Drysdale, C. R., The Nature and Treatment of Syphilis and the so-called "Contagious Diseases," 523; Dühring, L. A., Atlas of Skin Diseases, Part VII., 402; Dulles, C. W., What to do first in Accidents or Poisoning, 452; Duncan, J. M., Clinical Lectures on the Diseases of Women, 159; Edwards, J. F., How Persons threatened or afflicted with Bright's Disease ought to live, 596; Emmett, T. A., Principles and Practice of Gynecology, 160; Engelmann, C., The Waters of Kreuznach, 233; Ercolani, G., The Utricular Glands of the Uterus, 503; Fothergill, J. M., The Practitioner's Hand-Book of Treatment, 280; Goodell, W., Lessons in Gynecology, 208; Hale, A. M., Management of Children, 427; Hamilton, F. H., Fracture of the Patella, 452; Hardwicke, H. J., Medical Education and Practice in all Parts of the World, 479; Heath, C. A., Manual of Minor Surgery and Bandaging, 428; Hufeland, C. W., The Art of Prolonging Life, 479; Hutchinson, J. C., Contributions to Orthopedic Surgery, 258; The Index Catalogue, 305; Johnston, J. F. W., The Chemistry of Common Life, 86; Kane, H. H., The Hypodermic Injection of Morphia, its History, Advantages, and Dangers, 503; Kingsley, N. W., A Treatise on Oral Deformities as a branch of Mechanical Surgery, 16; Klein, E., and Smith, E. N., Atlas of Histology, Part XI., 60, 596; Kraus, J., Carlsbad and its Natural Healing Agents from the Physiological and Therapeutical Point of View, 86; Legg, J. W., A Guide to the Examination of the Urine, 60; Lincoln, D. F., American Health Primers, School and Industrial Hygiene, 479; Mackenzie, M., Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Oropharynx, Nasal Cavities, and Neck, 481; Miner, Joel A., Physician's Memorandum Book, 647; Medical Record Visiting List and Physician's Diary, 646; Montreal General Hospital Reports, Vol. I., 39; Napheys, G. H., Modern Medical Therapeutics, 160; Nettleship, E., The Student's Guide to Diseases of the Eye, 423; Packard, J. H., Sea Air and Sea Bathing, 16; Palmer, A. B., Homeopathy, What Is It? 160; Piffard, H. G., and Fox, G. H., Cutaneous and Venereal Memoranda, 596; Putzel, L., A Treatise on Common Forms of Functional Nervous Diseases, 403; Rhode Island, Second Annual Report of the State Board of Health, 40; Roberts, J., The Compend of Anatomy, 596; Robin-on, B., A Practical Treatise on Nasal Catarrh, 620; Rumbold, T. F., Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears, Part I., 402; State Board of Health of Massachusetts, Eleventh Annual Report and General Index, 403; State Board of Health, Lunacy, and Charity, Supplementary Health Report, 404; Tait, L., Diseases of Women, 136; Tartsenon, J., La Syphilis, son Histoire et son Traitement, 620; Trouessart, A., and Péloux, H., Treatise on Therapeutics, 280; Wells, J. S., A Treatise on the Diseases of the Eye, 620; Wilson, W. S., The Ocean as a Health Resort, 504; Wythe, J. H., The Microscopist, 401.
- Biography.** Beardsley, L. N., 561; Blake, J. E., 602; Davis, F. H., 260; Dow, J. C., 329; Hall, A. B., 207; Hebra, F. von, 258; Hunt, Sanford B., 646; Jackson, C. T., 233; Neilson, Miss, 310; Nichols, I. A., 576; Satterlee, R. S., 527; Seguin, E. C., 453; Smith, David Paige, 646; Spofford, J., 332; Trjada, Ade, 623; Torrey, A., 578.
- Bixby, G. H.** A case of gun-shot wound of the bladder, 521; uterine hæmorrhage in Bright's disease, 545.
- Blaisdell, A. F.** Two attacks of scarlet fever within six months, 43.
- Blake, C. J.** Telephone of Professor Meyer, 474; the telephone and microphone in auscultation, 486, 493.
- Blodgett, A. N.** Case of hallux valgus, 231.
- Bolles, W. P.** Recent progress in materia medica and pharmacy, 182.
- Boardman, W. E.** The necessity for the exercise of great care in the most minute details of operation upon the uterine and adjacent organs, 545; Emmet's operation upon the cervix uteri, 570.
- Borden, H. F.** Oedema of the lungs, with cases, 9.
- Bowditch, H. P.** The collection of data at autopsies, 148; the position of objects determined by the sense of touch and the sense of sight, 474; instruments used in pneumonography, 498.
- Bowditch, V. Y.** Instruction at Leipzig, 90.
- Boylston.** The Boylston prize, 61.
- Bradford, E. H.** Case of genu valgum, 349; recent progress in orthopedic surgery, 419; bibliography of works on orthopedic surgery, 422; the treatment of hip disease, 465.
- Broughton, H. W.** Probable hyperæmia of the liver from malarial infection, with the possible presence of either cancer or hypertrophic cirrhosis, 494.
- Brown.** The Fletcher microtome, 474.
- Brown, M. L.** A correction, 189.
- Buckingham, E. M.** Case of poisoning by nutmegs, 523.
- Buckler, T. H.** On the post-parturient pathology resulting from imperfect uterine contraction after child-birth, and on involution, complete and incomplete, 268; on the inaptness of the peritonæum to inflame, and on the importance for medical, surgical, and diagnostic purposes of having free access to the abdominal cavity, 414.
- Cabot, A. T.** Microscopic specimens from wall of fistulous tract near the rectum, 497; solutions of carbolic acid, 498.
- Cabot, S.** Surgical cases at Massachusetts General Hospital, 156.
- Cambridge.** Bathing in Fresh Pond, 114.
- Cellular Tissue.** Two cases of abdominal abscess, Sumner, A. M., 350; deep abscess of the neck, Cheever, D. W., 390, 400.
- Chadwick, J. R.** Massage in treatment of uterine diseases, 229.
- Channing, W.** The use of mechanical restraint in insane hospitals, 173.
- Charleston.** Letter from Charleston, 284; medical college of the State of South Carolina, 379.
- Cheever, D. W.** Deep abscess of the neck, 390, 400.
- Chemistry.** Recent progress in medical chemistry, Hills, W. B., 106; Chenery, E., croup and diphtheria, 602.
- Cheyne, W. W.** Treatment of gonorrhoea, 353.
- Chicago.** Chicago medical schools, 377.
- Children.** On the systolic brain murmur of children, Osler, W., 29; recent progress in the treatment of diseases of children, Hayden, D. H., 55, 82; cholera infantum, 66; milk and water for babes, 458.
- Circulatory System.** Cardiac irregularity as the only result of fright (cardiac chorea), Webber, S. G., 93; on the systolic brain murmur of children, Osler, W., 29; rodent ulcer, ligature of the carotid artery, etc., Michel, M., 235; the influence of aortic aneurism and aortic insufficiency, singly and combined, on the retardation of the pulse, Key, A. T., 316; angina pectoris, with rupture of the heart, Winsor, F., 343; cure of pericarditis, with effusion, Stedman, C. E., 493; action of the heart, Garland, G. M., 498; case of aortic aneurism, Draper, F. W., 522; case of mitral disease of the heart, Hicks, H. D., 523; case of gastric ulcer and fatty heart, Shattuck, G. C., 545; case of hæmorrhage into and around the pancreas with sudden death, Draper, F. W., 615.
- Clark, H. G.** As to fees: a postscript, 19.
- Courtenay, J. H.** A few practical remarks on the subject of tropical dysentery, 190.
- Cook, C. H.** Pyæmia of doubtful origin, apparently "spontaneous," 75.
- Curtis, T. B.** Recent progress in urinary surgery, 224; the significance of frequent micturition, 511, 522; diphtheria with croup, 578.
- Cutaneous System.** Eczema and its relations, Bethune, G. A., 127; skin grafting, Porter, C. B., 133; rodent ulcer, ligature of the carotid artery, Michel, M., 235; recent progress in dermatology, Wigglesworth, E., 348, 393; rodent ulcer, Irwin, F., 434; examination of hair, White, J. C., 473.
- Cutler, E. G.** Recent progress in pathology and pathological anatomy, 519, 541.
- Cutter, J. C.** Absence of uterus, 333; letter from Japan; human endurance, 66.
- Dalton, J. C.** A ready method of making brain sections for post-mortem examinations, 57.
- Davenport, E. F.** Report on pharmaceutical preparations, 567.
- Dennett, W. T.** Examination of the eyes of the children of Hyde Park, 602.
- Derby, H.** The use of the artificial leech in ophthalmic surgery, 135; the operation of optico-ciliary neurotomy at the Milan congress, 409.
- Detroit.** Detroit Medical College, 379.
- Digestive System.** Peritoneal surgery, Nussebaum, 63; Fistula in ano, Allen, D. P., 110; case of sudden and transient swelling of both lips and tongue, Lawbaugh, A. J., 118; case of latent peritoneal effusion, Doe, O. W., 125; prolonged abstinence from food, Noyes, J. C., 140; Tanner's test, 135; a few practical remarks on the subject of tropical dysentery,

- Courtenay, J. H., 190; cirrhosis of the liver, with omental hernia, Shattuck, G. C., 26; case of perforating gastric ulcer, Garland, G. M., 351; treatment for pulpless teeth, with uncontracted pulp tracts, Rollins, W. H., 357; on the impaction of the peritonsium to inflame, and on the importance for medical, surgical, and diagnostic purposes of having free access to the abdominal cavity, Buckler, T. H., 414; treatment for teeth which are sensitive during excavation, Rollins, W. H., 458; taking impressions for mineral teeth, Rollins, W. H., 459; probable hyperemia of the liver from malarial infection, with the possible presence of either cancer or hypertrophic cirrhosis, Broughton, H. W., 494; poisonous milk, Warren, J. H., 505; case of gastric ulcer and fatty heart, Shattuck, G. C., 545; gastric ulcer and cancer of the stomach, 574; strangulated inguinal hernia, Myhrall, D. B., 592; case of hemorrhage into and around the pancreas with sudden death, Draper, F. W., 616.
- Dispensary.** Statistics of the Boston Dispensary, 424.
- Doe, O. W.** Case of latent peritoneal effusion, 335; medical cases in the service of Dr. Doe, 273.
- Doggett, F. F.** Death from an anesthetic in Vienna, 649.
- Draper, F. W.** Follicular vulvitis as a complication of pregnancy, 423; medical expert testimony, 442, 449; case of aortic aneurism, 522; case of hemorrhage into and around the pancreas with sudden death, 616.
- Dunn, W. A.** Syphilis of the nervous system, 569.
- Dwight, T.** Recent progress in anatomy, 320; the disappearance of tumors, 562, 570.
- Ear.** The importance of the early recognition of ear disease, Green, J. Orne, 6; Professor Hughes's audiometer, Green, J. Orne, 474; telephone of Professor Meyer, Blake, C. J., 474; the dentophone and the audiophone, Green, J. Orne, 475; recent progress in otology, Green, J. O., 612; inflammation of mastoid, Green, J. O., 615.
- Edes, R. T.** Some of the symptoms of Bright's disease, 1, 25; a case of idiopathic anæmia, recovery under the use of arsenic (Fowler's solution), 392; case of pelvis of the human kidney, 474.
- Editorial.** The manufacture of fraudulent diplomas checked at last, 17; second annual report of the State Board of Health of the State of Rhode Island, 40; overwork, 45; mortality rising with the temperature, 61; the Boylston prize, 61; new methods of treating cancer, 62; the relationship of phthisis and tuberculosis, 67; "medical education, the Northwest still in the lead," 113; sanitary legislation and progress in Japan, 113; bathing in Fresh Pond, 114; general hygiene and school hygiene in Wisconsin, 137; time requirement as an element in medical education, 161; the benefits and perils of drinking water, 161; verification and correction of thermometers, 185; color-blindness an issue in politics, 186; more "cruelty to women," 209; hospital board versus hospital staff, 249; an epidemic of hysterio-epilepsy, 233; the advancement of science, 238; death of Professor Ferdinand von Hebra, 258; state charities and volunteer visiting, 258; sanitation in colleges, 259; physical exercise and human endurance, 281; our new prophet, 281; the Index Catalogue, 305; a health jubilee, 323; a large calculus, 323; bad drainage underlying good hygiene, 323; registration under the new medical law of New York, 353; a Boston diploma mill, 353; progress of medical education, 353; supplementary health report of the State Board of Health, Lunacy, and Charity, 404; vital statistics of Providence, R. I., 404; the management of the insane, 429; obsolescent surgery, 430; milk and water for babes, 453; death of Dr. Edward Seguin, 463; single or double school sessions, 476; report on the plague in Russia, 476; insane criminals and the criminal insane, 476; the Cartwright lectures, 499, 525; the marine hospital service, 499; an impartial critic on litholapaxy, 500; the death under ether at Cincinnati, 548; annual meeting of the New York Sanitary Reform Society, 549; what is a cold bath, 550; the regulation of the practice of medicine in North Carolina, 551; the State Board of Health of New York, 573; annual report of the surgeon-general of the army, 573; the legislative inquiry into insane asylums management in New York, 574; gastric ulcer and cancer of the stomach, 574; the National Board of Health, 597; an English reviewer's idea of Americanisms, 599; the brain and spinal cord in extinct reptiles, 621; adulteration of food and drugs, 621; the Public Health Association, 645; long school sessions, 645.
- Elliot, J. W.** Antiseptics in gynecology, 342.
- Erich, A. F.** A case of encysted ascites simulating ovarian dropsy, 318.
- Eye.** Color-blindness an issue in politics, 186; the use of the artificial leech in ophthalmic surgery, Derby, H., 135; recent progress in ophthalmology, Wadsworth, O. F., 250; the operation of ophthalmic neurotomy at the Milan congress, Derby, H., 409; examination of the eyes of the children of Hyde Park, Dennett, W. T., 602; optic neuritis after measles, Wadsworth, O. F., 638.
- Fisher, T. W.** The State of Rhode Island v. G. H. Brown, 157; Dr. Fisher's paper, 284; recent progress in the treatment of mental diseases, 471, 490; habitual drunkenness, 633.
- Folsom, C. F.** The pathology of insanity, 49, 851; the classification of mental diseases, 78; the prevalence and causes of insanity; commitments to asylums, 97.
- Fothergill, J. M.** Specialists, 48.
- Gage, T. H.** The prevention of the spread of typhoid fever, 101, 121.
- Gairdner, W. T.** Clinical instruction, its real import and its method, 461; lectures, books, and practical teaching, 509, 535.
- Garland, G. M.** Case of perforating gastric ulcer, 351; recent progress in physiology, 448; action of the heart, 498.
- Garvin, L. F. C.** Poisoning by aqua ammoniac, 166.
- General Diseases.** Phlegmonous phimois, with venereal sore, Agnew, D. H., 33; two attacks of scarlet fever within six months, Blaisdell, A. F., 43; the psychoses of the secondary form of syphilis, Kiernan, J. G., 58; new methods of treating cancer, 62; the relationship of phthisis and tuberculosis, 67; pyæmia of doubtful origin, apparently "spontaneous," Cook, C. H., 75; the prevention of the spread of typhoid fever, Gage, T. H., 101, 121; bacteria and their relations to disease, Whitney, W. F., 125, 146; case of acrochordian diabetes, Marion, H. E., 135; diphtheria and the resulting paralysis, Reed, A. F., 149; physical pathology of syphilis, Otis, F. N., 183, 217, 239, 313; a case of intermittent fever originating in Western Massachusetts, Ayer, J. B., 232; a case of encysted ascites, simulating ovarian dropsy, Erich, A. F., 318; history of five cases of intermittent fever that occurred at Drownville (Barrington), R. I., August, 1890, Keene, S. S., 331; chloroform, Thomas, T. G., 339; a case of idiopathic anæmia, recovery under the use of arsenic, Edes, R. T., 392; bip-joint disease, death in early stage from tubercular meningitis, Shakespear, E. O., 437; report on the plague in Russia, 476; croup or diphtheria, Ham, O. F., 564; syphilis of the nervous system, Dunn, W. A., 569; diphtheria with croup, Curtis, T. B., 573; croup and diphtheria, Chensery, E., 602.
- Generative System.** Recent progress in gynecology, Baker, W. H., 30; phlegmonous phimois, with venereal sore, Agnew, D. H., 33; the dangers of internal urethrotomy, Ranney, A. L., 33; massage in the treatment of uterine diseases, Graham, D., 207, 229; case of uterine cancer, with remarks upon treatment, Goodell, W., 241; the etiology of perineal laceration and the operation for its relief, Goodell, W., 242; on the post-parturient pathology resulting from imperfect uterine contraction after childbirth, and on involution, complete or incomplete, Buckler, T. H., 266; uterine massage as a means of treating certain forms of enlargement of the womb, Jackson, A. E., 291; a case of encysted ascites, simulating ovarian dropsy, Erich, A. F., 318; absence of uterus, Cutter, J. C., 333; some of the results of extensive laceration of the cervix uteri, Thomas, T. G., 337; antiseptics in gynecology, Elliot, J. W., 342; treatment of gonorrhoea, Cheyne, W. W., 358; follicular vulvitis as a complication of pregnancy, Draper, F. W., 423; offensive vaginal discharge, Stedman, C. E., 424; epithelioma of vagina, Lyman, G. H., 424; reflex symptoms of irritation of the genital organs, Pennington, J. C., 427; absence of lochia, Orcutt, G. A., Jr., 457; fetid menstruation relieved, Stedman, C. E., 432; a small lipoma on the anterior labium uteri as the cause of sterility, Stronatzki, O., 506; the "abdominal method" of singing and breathing as a cause of "female weakness," Wing, C. E., 516; the necessity for the exercise of great care in the most minute details of operation upon the uterine and adjacent organs, Boardman, W. E., 545; Emmet's operation upon the cervix uteri, Boardman, W. E., 570; uterine hemorrhage in Bright's disease, Blizby, G. H., 545; persistent dangerous hemorrhage after the spontaneous enucleation of a uterine fibroid, Hoerner, A., 546; uterine fibroid, Minot, F., 594.
- Gerrish, F. H.** The ownership of prescriptions, 559.
- Gibney, V. P.** Pachymeningitis cerebri, 36.
- Gilman, J. T.** Tendon ligatures, 433.
- Goodell, W.** Case of uterine cancer, with remarks upon treatment, 241; the etiology of perineal laceration, and the operation for its relief, 242.
- Gouley, J. W. S.** Organic stricture producing retention of urine of unusually rapid development, phimois, 413.
- Graham, D.** Massage in the treatment of uterine disease, 207, 229.
- Gray.** The use of quinine in connection with nervous sedatives, 35.
- Green, J. Orne.** The importance of the early recognition of ear-disease, 6; Professor Hughes's audiometer, 474; the dentophone and the audiophone, 475; recent progress in otology, 612; inflammation of mastoid, 615.
- Greene, W. W.** Ten cases of litholapaxy, 51; boric acid in surgery, 197, 249.
- Hadra, B. E.** Mensuration of the thorax below the diaphragm, 247.
- Ham, O. F.** Croup or diphtheria, 564.
- Hammond, W. A.** Myxoedema, with special reference to its cerebral and nervous symptoms, 14; thalamic epilepsy, 37.
- Harris, E.** Essential elements of registration of vital statistics, 458.
- Hartwell, E. M.** American anatomy acts, 381; the earliest English and American medical acts, 437; the early American anatomists and the legal status of anatomy in Massachusetts before 1800, 538; Massachusetts laws regarding anatomical science, 564, 587; recent American anatomy acts, 608.
- Harvard University.** Harvard Medical School, 375.
- Hayden, D. H.** Recent progress in the treatment of diseases of children, 55, 82.
- Heffenger, A. C.** Medical and surgical notes in the Pacific, 308.
- Hewson, A.** On substitutes for adhesive plaster, 339, 457.
- Hicks, H. D.** Case of mitral disease of the heart, 523.
- Hill, H. H.** Plated wire, 166.
- Hills, W. B.** Recent progress in medical chemistry, 106.
- Hodges, R. M.** Pilo-nidal sinus, 435, 493, 544.
- Holmes, H.** Congenital malformation, complete absence of anus, 271.
- Holt, A. F.** What constitutes the "dead body" of a person? 200.
- Hoerner, A.** Persistent dangerous hemorrhage after the spontaneous enucleation of a uterine fibroid, 546.
- House, S. R.** Midwifery in Sam, 141.
- Hygiene, Health, and Boards of Health.** Second annual report of the State Board of Health of Rhode Island, 40; mortality rising with the temperature, 61; the Parkes Museum of Hygiene, 138; the prevention of the spread of typhoid fever, Gage, T. H., 101, 121; Cape Cod as a health resort, and some remarks pertaining to sanitary science, Pines, P., 104; sanitary legislation and progress in Japan, 113; bathing in Fresh Pond, 114; general hygiene and school hygiene in Wisconsin, 137; the benefits and perils of drinking water, 161; cruelty to women, 162; more "cruelty to women," 209; sanitation in colleges, 259; physical exercise and human endurance, 281; a health jubilee, 323; public medicine in the United States and Japan, Acland, H. W., 309; bad drainage underlying good hygiene, 323; supplementary health report of the State Board of Health, Lunacy, and Charity, 404; general index, vols. I.-XI, reports Massachusetts State Board of Health, 403; single or double school sessions, 476; poisonous milk, Warren, J. H., 505; New York Sanitary Reform Society, 549; The State Board of Health of New York, 573; The National Board of Health, 597; adulteration of food and drugs, 621; long school sessions, 645, 648.
- Ingaia, E. F.** Treatment of diseases of the larynx, 169.
- Instruments and Apparatus.** Verification and correction of thermometers, 185; cupric test pellets, Neff, Joseph, 69; the use of the artificial leech in ophthalmic surgery, Derby, H., 135; plated wire, Hill, H. H., 166; the danger of Eschmarch's elastic bandage, 263; the whale-tendon ligature as a substitute for Lister's catgut ligature, Otis, F. N., 381, 432; substitutes for adhesive plaster, Hewson, A., 339; tendon ligatures, Gilman, J. T., 433; Professor Hughes's audiometer, Green, J. O., 474; the dentophone and the audiophone, Green, J. O., 475; the Fletcher microtome, Brown, 474; telephone of Professor Meyer, Blake, C. J., 474; the telephone and microphone in auscultation, Blake, C. J., 486, 493; exhibition of instruments, Warren, J. H., 496; tendon ligatures, Smith, J. W., 431; instruments used in pneumonography, Bowditch, H. P., 498.
- Irwin, F.** Rodent ulcer, 434.
- Italy.** The Italian universities, 91.
- Jackson, A. E.** Uterine massage as a means of treating certain forms of enlargement of the womb, 291.
- Jacobi, A.** Clinical memoranda, 254.
- Japan.** Letter from Japan, human endurance, 66; letter from Japan,

- sanitary legislation and progress in Japan, 112; public medicine in the United States and Japan, Acland, H. W., 309.
- Johnston, W. E. The late Nile Nelson, 310.
- Jurisprudence. Anchylosis of elbow-joint following dislocation in a medico-legal aspect, Agnew, D. H., 33; the State of Rhode Island vs. G. H. Brown, Fisher, T. W., 157; what constitutes the "dead body" of a person? Holt, A. F., 200; the medico-legal relations of alcoholism, its pathological aspects, Sabine, G. K., 221; report of the executive board of the Massachusetts Medico-Legal Society on the work of the medical examiner for the year 1879, 263; on points of interest in the case of Jennie P. Clarke, Pinkham, J. G., 214; the Brown case, Whitney, J. O., 261; medical expert testimony, Draper, F. W., 442, 449; insane criminals and the criminal insane, 476; medical experts, Williams, E. T., 531; the legislative inquiry into the insane asylum management in New York, 574; the law of slander as applicable to physicians, 636.
- Kansas. Kansas city, 432.
- Keene, S. S. History of five cases of intermittent fever that occurred at Brownville (Barrington), E. I., August, 1890, 331.
- Keyt, A. T. The influence of aortic aneurism and aortic insufficiency, singly and combined, on the retardation of the pulse, 315.
- Kierman, J. G. The psychoses of the secondary fever of syphilis, 53.
- Knight, F. I. Recent progress in the treatment of diseases of the throat, 131, 154.
- Lawbaugh, A. I. Case of sudden and transient swelling of both lips and tongue, 113.
- Lawrence, R. M. A case of abnormal projection of the costal cartilage simulating a morbid growth, 92.
- Leipzig. Instruction at Leipzig, Bowditch, V. Y., 90.
- Lento, F. D. Higher education of medical men, 366.
- Lightning. Death by lightning, Sullivan, J. L., 177.
- Locomotion. Organs of. Hip-joint disease, death in early stage from tubercular meningitis, Shakespeare, E. O., 437.
- London. Letters from London, modern nursing, 83; the Parker Museum of Hygiene, 193; Guy's Hospital nursing, 456, 479, 504; letter from London, 634.
- Louisville. The medical schools at Louisville, 390; letter from Louisville, 623.
- Lyman, G. H. Epithelioma of vagina, 424.
- Maine. The Medical School of Maine, 376.
- Malformations. Congenital malformation, complete absence of anus, Holmes, H., 271; absence of uterus, Cutter, J. C., 383.
- Marine Hospital Service. Examination and appointments of medical officers, 324; the Marine Hospital Service, 499.
- Marion, H. E. Case of macular diabetes, 135.
- Mason, J. J. Diameter of the nerve-cell nuclei in the spinal cord, 16.
- Massachusetts General Hospital. Antiseptic surgery, 448.
- Material Medics and Therapeutics. Water as a prophylactic and remedy, Webster, S. G., 35; the use of quinine in connection with nervous sedatives, Gray, 85; cupric test pellets, Neff, J., 69; the use of the artificial leech in ophthalmic surgery, Derby, H., 135; recent progress in materia medica and pharmacy, Bolles, W. F., 182; the miracle of the iodine, 193; boric acid in surgery, Greene, W. W., 197, 249; massage in the treatment of uterine diseases, Graham, D., 207, 222; recent progress in therapeutics, Amory, R., 271, 286; trochanter, 309; uterine massage as a means of treating certain forms of enlargement of the womb, Jackson, A. B., 291; antiseptics in gynecology, Elliot, J. W., 342; antiseptic surgery at the Massachusetts General Hospital, 448; substitutes for adhesive plaster, Hewson, A., 457; explosive prescriptions, 431; petroleum ointments, Amory, R., 434; solutions of carbolic acid, Cabot, A. T., 436; the physiological antagonism between medicines, and between remedies and diseases, Bartholow, R., 499, 525, 533, 557, 531, 629; what is a cold lun, 550; saxolinum, Amory, R., 554; the ownership of prescriptions, Gurish, F. H., 559; report on pharmaceutical preparations, Davenport, R. F., 557; soluble compressed pellets for hypodermic medication, Wolff, L., 901.
- Mead, E. The management of the insane, the status of the American medical, 434.
- Medical Schools and Colleges. "Medical education, the Northwest still in the lead," 113; instruction at Leipzig, Bowditch, V. Y., 90; the Italian universities, 91; time requirement as an element in medical education, 151; Greek as a compulsory subject of preliminary examination for medical students, 189; higher education of medical men, Lento, F. D., 366; medical schools and colleges in the United States, 398; medical schools of New York, 394; Philadelphia, 399; Baltimore, 374; Boston, 375; Maine, 376; Chicago, 377; Detroit, 379; Charleston, 379; Louisville, 390; relations of the medical corps of the navy to medical education, 381; Great Britain and Ireland, 383; France, 381; Germany, 385; Berlin, 386; Switzerland, 386; Austria, 386; Canada, 387; Japan, 387; the progress of medical education, 398; educational notes, 407; clinical instruction, its real import and its method, Gairdner, W. T., 461; lectures, books, and practical teaching, Gairdner, W. T., 519, 535.
- Metric System. Report of the metric executive committee of the American Medical Association, 68.
- Michel, M. Rodent ulcer, ligature of the carotid artery, etc., 285.
- Microscopy. The Fletcher microtome, Brown, 474.
- Mind. The pathology of insanity, Folsom, C. F., 49, 351; the psychoses of the secondary form of syphilis, Kierman, J. G., 53; the classification of mental diseases, Folsom, C. F., 73; the prevalence and causes of insanity, commitments to asylums, Folsom, C. F., 97; the use of mechanical restraint in insane hospitals, Channing, W., 173; the Brown case, Whitney, J. O., 261; Dr. Fisher's paper, 281; the management of the insane, the status of the American method, Mead, E., 424; the management of the insane, 429; recent progress in the treatment of mental diseases, Fisher, T. W., 471, 490; insane criminals and the criminal insane, 476; the legislative inquiry into insane asylum management in New York, 574; the asylums of Europe, Beard, G. W., 606.
- Minot, C. S. Human growth, 79.
- Minot, F. Cases of acute pneumonia, 228; uterine fibroid, 594.
- Mosher, E. M. Letter from London, 188.
- Myhrvall, D. B. Strangulated inguinal hernia, operation, intestinal fistula and death, 592.
- Navy. The relations of the medical corps of the navy to medical education, 381.
- Neff, Joseph. Cupric test pellets, 69.
- Nervous System. Myxodema, with special reference to its cerebral and nervous symptoms, Hammond, W. A., 14; specimens of swollen cylinder axes of myelitis, Webster, S. G., 15; diameter of the nerve-cell nuclei in the spinal cord, Mason, J. J., 16; on the systolic brain murmur of children, Osler, W., 29; the transfer of sensations, Bartholow, R., 54; the use of quinine in connection with nervous sedatives, Gray, 85; pachymeningitis cervicalis, Gibney, V. P., 34; thalamic epilepsy, Hammond, W. A., 87; overwork, 45; a ready method of making brain-sections for post-mortem examinations, Dalton, J. C., 57; cardiac irregularity as the only result of fright (cardiac chokes), Webster, S. G., 93; cases at the Boston City Hospital, Webster, S. G., 106; diphtheria and the resulting paralysis, Read, A. F., 149; recent progress in the pathology and treatment of diseases of the nervous system, Putnam, J. J., 204; an epidemic of hysterical epilepsy, 223; nerve-stretching, Putnam, J. J., 401; reflex symptoms of irritation of the genital organs, Pennington, J. C., 427; syphilis of the nervous system, Dunn, W. A., 549; optic neuritis after measles, Wedderburn, O. F., 636; feigned epilepsy, 649.
- New Orleans. Letter from New Orleans, 187.
- New York. Registration under the new medical law of New York, 353; New York medical schools, 396.
- Nichols, J. T. G. Cases in obstetric practice, 59.
- Niles, D. W. Advertising in text-books, 94.
- Nomenclature. The classification of mental diseases, Folsom, C. F., 73.
- Noyes, J. C. Prolonged abstinence from food, 140.
- Nussebaum. Peritoneal surgery, 68.
- Orent, G. A., Jr. Absence of lochia, 457.
- Orthopaedic Surgery. Talipes varus, Agnew, D. H., 34; case of hallux valgus, Blodgett, A. N., 231; case of genu valgum, Bradford, E. H., 349; recent progress in orthopaedic surgery, Bradford, E. H., 412; bibliography of works on orthopaedic surgery, Bradford, E. H., 423; hip-joint disease, Willard, D. F., 437; the treatment of hip disease, Bradford, E. H., 465.
- Osler, W. On the systolic brain murmur of children, 29.
- Otis, E. O. The whale-tendon ligature as a substitute for Lister's catgut suture, 331, 482.
- Otis, F. N. Physical pathology of syphilis, 193, 217, 289, 313.
- Parasites. Bacteria and their relations to disease, Whitney, W. F., 125, 145; parasitic disease in a wild mallard duck, White, J. C., 497.
- Parvin, T. Secondary puerperal hemorrhage, 328.
- Pathology. A ready method of making brain sections for post-mortem examinations, Dalton, J. C., 57; a case of abnormal projection of the costal cartilages simulating a morbid growth, Lawrence, R. M., 92; the pathology of insanity, Folsom, C. F., 49, 351; the collection of data as autopsies, Bowditch, H. P., 148; physical pathology of syphilis, Otis, F. N., 193, 217, 289, 313; the medico-legal relations of alcoholism, its pathological aspects, Sabine, G. K., 221; recent progress in pathology and pathological anatomy, Cutter, E. G., 519, 541.
- Pennington, J. C. Reflex symptoms of irritation of the genital organs, 427.
- Peters, E. D. Fecal analysis, 533.
- Philadelphia. Letter from Philadelphia, the diploma traffic, 65; Philadelphia medical schools, 399; medical registration in Philadelphia, 462.
- Physiology. Human growth, Minot, C. S., 79; prolonged abstinence from food, Noyes, J. C., 140; Tanner's test, 165; measurement of the thorax below the diaphragm, Hadra, B. E., 247; physical exercise and human endurance, 241; recent progress in physiology, Garland, G. M., 446; the position of objects determined by the sense of touch and the sense of sight, Bowditch, H. P., 474; fecal analysis, Peters, E. D., 533.
- Pineo, P. Cape Cod as a health resort, and some remarks pertaining to sanitary science, 104.
- Pinkham, J. G. On points of interest in the case of Jennie P. Clarke, 214.
- Poisons. Poisoning by stramonium, 66; poisoning by aqua ammonia, Garvin, L. F. C., 163; dangerous toys, 214; the medico-legal relations of alcoholism, its pathological aspects, Sabine, G. K., 221; poisonous milk, Warren, J. H., 505; case of poisoning by nutmeg, Buckingham, E. M., 523; habitual drunkenness, Fisher, T. W., 632.
- Porter, C. E. Skin grafting, 133.
- Portland. Letter from Portland, 117.
- Practice of Medicine. As to fees, Clark, H. G., 19; specialists, Fothergill, J. M., 48; hospital board versus hospital staff, 209; hospital management, 213; the imbroglio at Guy's Hospital, 226; fraternization with homoeopaths, 237; Sir William Gull and the Guy's Hospital case, 263; regulation of the practice of medicine in the United States, 368; the earliest English and American medical acts, Hartwell, E. M., 487; the regulation of the practice of medicine in North Carolina, 551; are free dispensaries abused, Whittemore, J. H., 613.
- Pregnancy. Affections connected with. Recent progress in obstetrics, Richardson, W. L., 13; cases in obstetric practice, Nichols, J. T. G., 59; midwifery in Islam, House, S. R., 141; on the post-parturient pathology resulting from imperfect uterine contraction after childbirth, and on involution, complete or incomplete, Buckler, T. H., 268; secondary puerperal hemorrhage, Parvin, T., 323; follicular vulvitis as a complication of pregnancy, Draper, F. W., 423; hot-water injections in post-partum hemorrhage, Sredman, C. E., 423; tampon in uterine hemorrhage, 593.
- Providence. Vital statistics of Providence, R. I., 404.
- Putnam, J. J. Recent progress in the pathology and treatment of diseases of the nervous system, 204; nerve stretching, 401.
- Quincy, H. P. Microscopic preparations from the diaphragm of a rabbit, 497.
- Ranney, A. L. The dangers of internal urethrotomy, 39.
- Reed, A. F. Diphtheria and the resulting paralysis, 149.
- Registration. Registration under the new medical law of New York, 353; essential elements of registration of vital statistics, Harris, E., 468; medical registration in Philadelphia, 462; the telephone and microphone in auscultation, Blake, C. J., 486, 493.
- Respiratory System. Edema of the lungs, with cases, Borden, H. F., 9; the relationship of phthisis and tubercle, 87; treatment of diseases of the larynx, Ingalls, E. F., 139; recent progress in the treatment of diseases of the throat, Knight, F. I., 131, 154; cases of acute pneumonia, Minot, F., 223; empyema, Swift, J. B., 230; croup or diphtheria, Ham, O. F., 554; diphtheria with croup, Curtis, T. B., 575; pharyngitis resulting from the inhalation of coal-oil gas, Stone, S. B., 624; cases of tracheotomy, Warren, J. C., 637.

- Richardson, W. L.** Recent progress in obstetrics, 18.
- Rollins, W. H.** Treatment for pulpless teeth with uncontracted pulp tracts, 367; treatment for teeth which are sensitive during excavation, 453; taking impressions for mineral teeth, 459.
- Sabine, G. K.** The medico-legal relations of alcoholism, its pathological aspects, 111.
- Shakespeare, E. O.** Hip-joint disease, microscopical appearances, with cuts, 487.
- Shattuck, G. C.** Cases in the service of Dr. Shattuck, 266; case of gastric ulcer and fatty heart, 545.
- Siam.** Midwifery in Siam, House, S. R., 141.
- Smith, J. W.** Tendon ligatures, 531.
- Societies.** American Academy of Medicine, 356; American Dental Association, 304; American Gynecological Association, 298, 323; American Medical Association, 44, 68; American Neurological Association, 14, 84; American Public Health Association, 358, 616, 639, 645; Boston Society for Medical Improvement, 400, 449, 493, 543, 613; Boston Society for Medical Observation, 135, 350, 169; Boston Society of Medical Sciences, 478, 497; British Medical Association, 20, 118, 212, 276; Boston Medico-Psychological Society, 157; Essex North District Medical Society, 427; International Medical Congress, 144, 190, 334; Maine Medical Association, 117; Massachusetts Medico-Legal Society, 265, 522; Middlesex East District Medical Society, 398; Middlesex South District Medical Society, 58; New Hampshire Medical Society, 85; New York Academy of Medicine, 38; New York County Medical Society, 57, 456; New York Sanitary Reform Society, 549; Norfolk District Medical Society, 424; Obstetrical Society of Boston, 423, 545, 593; Oral Science Society for the Advancement of, 42; Rhode Island Medical Society, 396; Richmond County Medical Society, New York, 357; Suffolk District Medical Society, 207, 229, 349, 493, 522, 538; White Mountains Medical Society, 186.
- Stanton, L. L.** Restoration of hand after complete separation from the arm, 94.
- Stedman, C. E.** Hot-water injections in post-partum hemorrhage, 423; offensive vaginal discharge, 424; fetid menstruation relieved, 482; case of pericarditis, with effusion, 493.
- Stone, S. B.** Pharyngitis resulting from the inhalation of coal-oil gas, 624.
- Stroimaki, O.** A small lipoma on the anterior labium uteri as the cause of sterility, 506.
- Sullivan, J. L.** Death by lightning, 177.
- Summer, A. M.** Two cases of abdominal abscess, 350.
- Surgery.** Scalp lacerations and their management, Agnew, D. H., 32; fracture of ribs, Agnew, D. H., 32; ankylosis of elbow-joint following dislocation, in a medico-legal aspect, Agnew, D. H., 33; peritoneal surgery, Nussbaum, 68; restoration of hand after complete separation from the arm, Stanton, L. L., 94; fistula in ano, Allen, D. P., 110; case of sudden and transient swelling of both lips and tongue, Lawbaugh, A. I., 118; skin grafting, Porter, C. B., 133; surgical cases at the Massachusetts General Hospital, Cabot, S., Warren, J. C., 156; boracic acid in surgery, Greene, W. W., 197; transplantation of skin from the sheep to the human body, 260; cases at the Boston City Hospital, 322; nerve stretching, Putnam, J. J., 401; obsolescent surgery, 430; antiseptic surgery at the Massachusetts General Hospital, 448; solutions of carbolic acid, Cabot, A. T., 488; recent progress in surgery, Beach, H. H. A., 539.
- Swift, J. B.** Case of empyema, 230.
- Theory and Practice of Medicine.** Medical cases in the practice of Dr. O. W. Doe, 278; the Cartwright lectures, Bartholow, R., 499, 525, 533, 557, 551, 629; the disappearance of tumors, Dwight, T., 562, 570.
- Thomas, T. G.** Some of the results of extensive laceration of the cervix uteri, 337; chloroals, 389.
- Urinary System.** Some of the symptoms of Bright's disease, Edes, R. T., 1, 25; the dangers of internal urethrotomy, Hanney, A. L., 33; ten cases of litholapaxy, Greene, W. W., 51; par-nephritic and interstitial nephritis coexisting in the same case, Shattuck, G. C., 206; recent progress in urinary surgery, Curtis, T. B., 224; a large calculus, 323; litholapaxy, Van Buren, W. H., 307; organic stricture producing retention of urine of unusually rapid development, phimosis, Conley, J. W. S., 413; casts of pelvis of the human kidney, Edes, R. T., 474; case of urethral stricture treated by Otis's method, Bancroft, C. P., 484, 496; an impartial critique on litholapaxy, 500; the significance of frequent micturition, Curtis, T. B., 516, 522; a case of gun-shot wound of the bladder, Bixby, G. H., 521; uterine hemorrhage in Bright's disease, Bixby, G. H., 545.
- Van Buren, W. H.** Litholapaxy, 307.
- Wadsworth, O. F.** Recent progress in ophthalmology, 250; optic neuritis after measles, 636.
- Warren, J. C.** Surgical cases at Massachusetts General Hospital, 156; cases of tracheotomy, 337.
- Warren, J. H.** Exhibition of instruments, 496; poisonous milk, 505.
- Washington.** Letter from Washington, 576.
- Webber, S. G.** Specimens of swollen cylinder axes of myelitis, 15; water as a prophylactic and a remedy, 35; cardiac irregularity as the only result of fright (cardiac chorea), 38; cases at the Boston City Hospital, 108.
- White, J. C.** Examination of hair, 473; parasitic disease in a wild mallard duck, 497.
- Whitney, J. O.** The Brown case, 261.
- Whitney, W. F.** Bacteria and their relations to disease, 125, 145.
- Whittemore, J. H.** Are free dispensaries abused, 613.
- Wigglesworth, E.** Recent progress in dermatology, 346, 393.
- Wilder, B. G.** The foramina of Monro, some questions of anatomical history, 153.
- Willard, De F.** Hip joint disease; death in early stage from tubercular meningitis, 437.
- Williams, E. T.** Medical experts, 531.
- Wing, C. E.** Massage in the treatment of uterine diseases, 230; the "abdominal method" of singing and breathing as a cause of "female weakness," 516, 548.
- Winsor, F.** Angina pectoris, with rupture of the heart, 338.
- Wisconsin.** General hygiene and school hygiene in Wisconsin, 137.
- Wolff, L.** Pellets for hypodermic medication, 601.

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Lectures.

SOME OF THE SYMPTOMS OF BRIGHT'S DISEASE

BY ROBERT EDES, M.D.
One of the Visiting Physicians at the Boston Hospital.

THE so-called waxy or "amyloid" or "albuminoid" casts are frequently large, highly refracting, tough-looking, contorted, or undulating, with sometimes a conchoidal fracture. The name amyloid has properly been abandoned, as the casts thus named do not necessarily mean amyloid degeneration, and are not composed of amyloid material. They are not unfrequently met in connection with it, as both they and very often the amyloid degeneration are the results of advanced disease, but may also occur in other forms where no amyloid exists. They do not have the characteristic reaction even when found in the tubes of an amyloid kidney. They indicate disease of the parenchymatous structure of the kidney, and bear an extremely unfavorable prognostic significance. The same may be said of the very large, usually straight, very darkly granular, solid casts, which look as if they were composed, as indeed I believe they really are, not of exudation, but of masses of thoroughly degenerated epithelium, packed and molded in the straight tubes. I have seen these not long before the fatal termination so large as to be distinguishable by the naked eye, like little pieces of fine white thread.

[NOTE. It would appear from some recent researches of Cornil,² made by the use of osmic acid, that the material for the casts is chiefly furnished in the form of albuminous globules, afterward fused more or less completely together in the convoluted tubes, but that the casts are molded and hardened in the straight tubes.]

The nervous symptoms found in connection with renal disease are of two kinds, of which we may speak in the ordinary way as functional and organic, since these names remind us that one set of them probably depend upon the failure of the kidneys to perform their functions, and the other upon the constitutional condition which underlies both nervous and renal symptoms. The first of these are the so-called uræmic symptoms; the second, the organic diseases of the brain, and especially cerebral hemorrhage, so frequently seen with the contracting kidney.

Speaking without figures before me, but from a recollection of cases both in and out of the hospital, I should say that half the cases of cerebral hæmorrhage, especially where the effusion is large, in persons of middle age, were accompanied by more or less interstitial nephritis. The reason for this association we can see more clearly after we have studied the relations of the circulatory organs. For the present we will take up the uræmic symptoms, which may be considered to include headache, often with vomiting, coma, and convulsions. I doubt if we find any mental derangement as a result of uncomplicated renal disease; certainly nothing more than a sort of moodiness or suspiciousness, such as might be the result of any chronic and depressing disease.

That an association of the two conditions, mental disease and renal disease, in the same person may occasionally be observed is not at all strange when we

consider the frequency of each, and still less so in the light of the fact that both are very likely to be connected with disorders of the circulation or degeneration of the arteries.

Headache is an exceedingly common symptom, and derives much importance not only from its severity, but from the fact that it may be that which prompts the patient to seek advice, or may precede other symptoms for months. There is but little which is distinctive about it except its frequent recurrence, when not constant, and usually an absence of that localization which would lead one to suspect a definite cerebral lesion. So far as the character of the pain is concerned it is hardly to be distinguished from a "nervous" headache, and its origin must be determined by the presence or absence of other symptoms. I think, however, that it has two distinct causes, or, at any rate, we have a right to look for two different terminations; that is, in many cases there is simply relief either from nature or from treatment, while in others it is the precursor of a cerebral lesion which may produce hemiplegia. The vomiting, which often forms a troublesome adjunct, unfortunately is by no means sure to give relief.

Convulsions and coma, often mentioned in the same breath, may with advantage be separated; for while it is true that convulsions, if long continued or severe, especially if tending toward a fatal result, run into coma, yet the reverse is by no means usual. In many cases coma comes on gradually, and terminates life without there ever having been any tendency to convulsions. The condition which furnishes the largest proportion of so-called uræmic convulsions is the puerperal; for although puerperal convulsions, even those which are distinctly epileptiform and not hysterical in character, are not always associated with nephritis, yet they are usually so, and the presence of nephritis, so frequent in pregnancy, furnishes good ground for dreading their approach. I have seen a woman in three successive pregnancies with thoroughly well-marked, violent, and repeated epileptiform convulsions, in whose urine I never could find any evidence of nephritis. She is now in moderate health. On the other hand, it is only a minority of patients with nephritis who have convulsions at all. About their ætiology so much has been written that not even an abridgment of the principal contributions can be attempted here; and this omission is of less importance since by far the most satisfactory and conclusive arguments are those in which D shows that his predecessors, A, B, and C, were all wrong, having afterward the same service done for his views by E and F.

I may mention, however, some of the principal theories: (1.) Retained urea acts as a poison. Disproved by the facts of injection of urea into the veins giving rise to nothing but diuresis. In the case of a patient of mine with granular kidneys, there was found upon the skin of nearly the whole body, but chiefly upon the face and neck, an abundant white gritty deposit, which proved to be nearly pure urea, mixed with some sebaceous matter. This patient's blood must have been thoroughly loaded with it; yet he had no convulsion whatever, but died in gradually increasing coma. In another patient, however, who did die in convulsions, with a large white kidney (parenchymatous and interstitial nephritis), I think there was the same deposit to a less extent, but owing to an accident I did not determine it with certainty. (2.) The theory of Frerichs,

¹ Continued from vol. cii., p. 605.

² *Journal de l'Anatomie et de la Physiologie, etc.*, No. 4, 1879.

that the urea is decomposed into carbonate of ammonia, which is partly eliminated by the breath and stomach, and partly retained in the blood, giving rise to convulsions, is probably partly true, so far as the change in the urea goes; but carbonate of ammonia is never present in the blood in sufficient quantity to give rise to very marked symptoms, and these are not convulsive. (3.) Less definite theories of creatin-emia, or the retention of some as yet undetermined excrementitious products, of which we can say only that as yet they do not rest on a satisfactorily well-established chemical basis to be received as demonstrated. A fact, however, of great practical importance, and one which seems to point to some explanation of this kind, is that a marked diminution or even suppression of urine is likely to be followed by some of these accidents. Dr. W. L. Richardson has called special attention to this as a means of prognosis, or of determining when premature delivery should be performed in a case of puerperal nephritis with threatening convulsions. (4.) Of the theories as to congestion, anæmia, or œdema of the brain, it is difficult to make any one fit all the cases; but it seems highly probable that some change in the circulation or pressure in the brain is the immediate cause of the convulsion.

The utmost that Bartels ventures to say, after a very careful discussion of the theories in the light of his clinical experience and numerous quantitative examinations of urine, is, "I consider only this much established: that the symptoms are all caused by some disorder of the urinary secretion, and that the title of uræmia is rightly attached to them."

My own view is somewhat as follows: the motor centres of the brain are affected both by anæmia and by the poisonous action of some products which should have been excreted by the kidney. By this malnutrition and poisoning (which may be rapidly increased by diminution of urine) they are brought into a condition of abnormal excitability. Then from some peripheral irritation, not necessarily a painful one (in pregnancy I believe it to be most frequently a uterine contraction), a reflex spasmodic contraction of cerebral blood-vessels is produced, and as a consequence a sudden complete anæmia of the motor centres. This sudden anæmia is to be looked upon as an irritation (*anämische Reiz*). Hence general convulsions. Individual peculiarities and mental influences may affect the ease with which this train of events is put in motion. In a case of puerperal convulsions, seen not long since, I was informed that the patient had for a long time been subject to "dead hands," a condition well known to be due to spasmodic action of the vaso-motor nerves. Dr. Fordyce Barker has remarked upon the great number of cases of puerperal convulsions he has seen among the wives of physicians, whom he supposes to have become frightened by reading their husbands' books. The latter part of this theory is based upon the well-known experiments of Kussmaul and Jenner on the production of epilepsy by sudden anæmia of the brain, and has the merit of explaining how some cases of puerperal convulsions may occur without nephritis, the general anæmia being sufficient as a predisposing cause.

When the accumulation of morbid products is excessive, or when for any reason it goes gradually on without the production of convulsions, the tendency is toward coma, — a more essential feature of uræmia, it seems to me, than are convulsions.

Headache and perhaps vomiting have often a similar origin, and are to be looked upon as precursors and as calling for relief. In treating these symptoms we ought, if possible, to remove the excess of water and of excrementitious material which is keeping the motor centres in a condition of excitability. This can hardly be done by the kidneys, since it is their failure to act which has given rise to the accumulation; and inasmuch as the failure is due to serious structural changes, the effect of treatment, be it ever so favorable, cannot restore their activity rapidly enough to be of service in such an urgent condition as uræmic convulsions. Indeed, the function of the kidneys is soonest restored by treatment directed toward relieving them temporarily of their duty. Hence the intestines are often vigorously stimulated by cathartics carrying off water and presumably material which should go through the kidney. Although the danger of provoking a troublesome diarrhœa is not to be left out of sight, yet as it is so much less than that of the uræmic condition the risk must often be assumed.

In regard to venesection, there is difference of opinion. The fact that it is an old-fashioned treatment ought not to weigh against it, and many practitioners of the present day will tell you of great relief following it. Bleeding, as is well known, not only diminishes temporarily the absolute quantity of the blood, but in a larger proportion its solid constituents, so that you are really making your patient anæmic by the process. Of course, a certain amount of urinary constituents are evacuated in this way, but I do not think it has been shown that their *relative proportion* in the blood is materially decreased unless for a very short time. Hence in many cases venesection would actually add to the intensity of the anæmia which we desire to avoid, while leaving the blood still charged with morbid material in nearly the same proportion. Its use should therefore, I think, be restricted to cases where anæmia is not extreme, and where the nervous irritability seems to be the controlling factor.

The skin, however, which has such intimate physiological relations with the kidneys, can generally be made useful. But I have seen cases in which it entirely failed to respond to any stimulus. One man, on whom it was impossible to start a drop of sweat in the hot-air bath, told us that when a sailor in the West Indies, some years before, and at work in the extreme heat, he never perspired at all. This man was afterward found to have kidneys more nearly approaching a pure amyloid than any others I have ever seen. The two best means of acting rapidly on the cutaneous secretion are, as has been stated, jaborandi, or its alkaloid pilocarpine, by the stomach or subcutaneously, and heat, preferably in the form of the hot-air bath.

I have called your attention to the favorable effect of the hot-air bath upon œdema. Some of you have seen a very anæmic but not emaciated man (John C. —), who has been in the hospital two different years on account of convulsions, and who not infrequently has severe headaches. Between his attacks he went out to work. The treatment by the hot-air bath was found so beneficial in his case that whenever his headache returns or he has vomiting, as he occasionally does, he gets another bath, with usually complete relief. Of course there will come a time when this treatment will fail, but it has not done so yet.

Another indication, which in puerperal cases alone can be fulfilled, is removing the irritation which initiates

the convulsion, that is, the uterine contraction. This means, in cases where the convulsions begin before labor, emptying the uterus, prematurely or at term. This procedure may put an end to them; but where the convulsions begin *after* labor, we have not the same power of diminishing them. That is, where the irritability of the motor centres is of such a degree that labor pains are necessary to provoke a convulsion, we can limit their intensity by emptying the uterus; but where that irritability allows even an after-pain to provoke a general spasm, this resource is cut off, and we have to resort to means already described and others which diminish excitability and lessen pain. In non-puerperal uræmic convulsions it is impossible to say whence the irritation arises, and of course equally impossible directly to remove it.

The drugs which are used to control uræmic convulsions are, in the first place, ether and chloroform, which may sometimes be so managed by a watchful attendant, if the fits are slow enough in coming on, as to cut them short, but which must usually be given more freely or almost continuously if we wish to be certain of completely arresting the convulsions. In most cases warning of the fit is not given by the patient's appearance until respiration has been sufficiently interrupted to prevent enough of the anæsthetic being inhaled to do any good. The same thing may often be better done by chloral, which, although we do not admit the original chemical theory of Liebreich, corresponds clinically pretty nearly to a continuous dose of chloroform. It may be given either by the mouth or by enema. Opium, or rather the hypodermic injection of morphia, I have left to the last, because it leads me to speak of its use in renal disease generally, as well as simply in convulsions. You know that in spite of the tendency which is supposed to exist in uræmia to an over-action of opium, morphia subcutaneously has been found highly successful in the treatment not only of puerperal convulsions, but of those occurring in the course of chronic nephritis, and in somewhat large doses too. You not infrequently hear it said that morphia should be used with great caution when there is any trouble with the kidneys. I think there is an idea that the inability of the kidneys to eliminate the morphia renders its action more intense. I have never sought for morphia in the urine of a patient with nephritis, and doubt if my chemistry is good enough to allow me to find an ordinary dose in any urine; but I have recently administered quinia for the sake of the experiment to two of our patients, and found a portion—how large I do not know—in the urine with but very little trouble. There is no reason why another alkaloid should not follow the same course. To me it seems that the danger lies simply in intensifying coma, if present, or turning the scale in that direction when a tendency already exists. If the warning means only what it says, I have no fault to find, for I hope you will never give morphia to anybody under any circumstances except with caution; but if it means that you are not to give it at all to patients who have chronic nephritis it is a great mistake. I am far from denying the danger, for I have seen one case of death by narcotism, for which neither the attending physician nor myself could satisfactorily account by the dose of morphia known to have been given, until we found albumen and casts. Unfortunately the post-mortem evidence of renal disease was denied us. I have within a few days, too, seen a case where a woman of seventy,

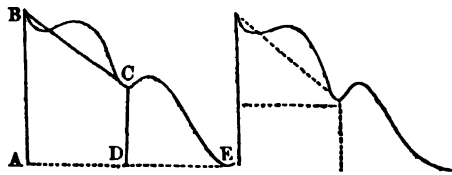
who has a light urine, albumen, casts, and dropsy, took .008 (one eighth grain) of morphia subcutaneously for dyspnoea, and the fatigue of sleeplessness, and slept so soundly all day that I felt decidedly anxious about her, although the symptoms did not at any time become actually alarming. But, on the other hand, I have never seen a more completely favorable action of morphia, with all its advantages and none of its disagreeable effects, immediate or secondary, than in excessively severe headaches in a most typical case of contracting kidneys. The quantity in this case was small, and always should be so in similar cases, but in convulsions doses have been given considerably in excess of those employed in ordinary cases,—two to four or even six centigrams. I may mention incidentally that great relief may sometimes be obtained in these headaches by caffeine, .25 gram, repeated if necessary once or twice. Unfortunately, the caffeine seems to act better the first few times it is used than afterwards.

Among the symptoms on the part of the respiratory organs are some which I think may properly be called uræmic, though not usually mentioned as such. We may of course have dyspnoea depending upon actual pulmonary obstruction, either as oedema of the lung or as pleuritic effusion or hydrothorax, but I think it is not unusual to see a degree and kind of dyspnoea not to be accounted for by these conditions that is out of all proportion to the amount of oedema to be detected by auscultation, and appearing and disappearing with great rapidity. This is of a nervous or uræmic character. A peculiar form of respiratory disturbance, once thought to be pathognomonic of fatty degeneration of the heart, but since shown to be connected with various diseases which impair the sensitiveness of the medulla oblongata, I have met with several times in cases of contracting kidney, as well as in some others where the diagnosis was not so clear. This is the Cheyne-Stokes respiration, which may accompany or alternate with marked dyspnoea. This phenomenon consists in the respiration from a normal or an exaggerated intensity becoming gradually more and more feeble until none can be detected, either by the eye or by auscultation. After this period of apnoea, which may last from ten to twenty seconds, more or less, a slight inspiration takes place, succeeded by others more and more ample, until the maximum of intensity is reached, when the same series begins over again. The return of respiration is very likely to be accompanied by some restless movements or awakening if the patient have dropped into a short doze during the breathing period. The whole cycle may occupy somewhere in the neighborhood of a minute, and its duration is for each case pretty constant. This symptom usually justifies a very unfavorable prognosis, though not an immediately fatal one.

The patient who exhibited it more than a year ago is still living at eighty-two. Another patient, aged fifty-one, while still attending to business, was said by his wife to "hold his breath" so long when asleep as to frighten her. This I suppose to have been Cheyne-Stokes respiration, since he afterward displayed it to perfection, but for many hours before he died in coma his breathing was regular, though stertorous. The cause of this condition is probably the narcotization of the medulla oblongata by uræmic products, so that it no longer responds to the ordinary stimulus until the accumulation of carbonic acid during the apnoea becomes large enough to put the apparatus again in mo-

tion, the excess is eliminated, and, the stimulus failing, another period of apnoea results.

The study of the pulse and circulation in renal disease brings us to the consideration of certain views, rather recently brought forward, which seem to me of the highest interest, both theoretical and practical. It has long been known, in fact Dr. Bright himself pointed out, that a hard pulse is associated with Bright's disease, and this fact has seldom been left out of sight in interpreting one of the most striking phenomena on the part of the circulatory apparatus, that is, the hypertrophy of the heart. It was said that the blood was opposed, in its passage through the arteries, either by actual contraction of the arteries in the kidneys or by its own want of normal relations to the capillaries, owing to failure of the kidneys to purify it, and hence hypertrophy of the heart in order to push it through. The more recent view, however, is that the arterial derangement *precedes* the renal; and here again we have two differing views: one that a sort of thickening of the minute vessels (arterio-capillary fibrosis) exists throughout the body, and the other that the first obstruction to the passage of the blood is, so far as the vessels are concerned, purely functional, and due to a poisoning of the blood. This theory differs from the first of all, as regards the origin of the poisoning; for while the older makes a failure of the kidneys the *cause* of an accumulation of morbid products in the blood, the more modern one assumes the presence of various poisons, frequently derived from the digestive organs and circulating in the blood, though not in consequence of a special failure on the part of the kidneys. Such poisons are, for instance, the scarlatinal, the gouty, and that of lead. The connection of high arterial tension with a great many cases of Bright's disease is easy to show, and the sphygmograph furnishes a good means of demonstrating it. Perhaps I might say, too, of detecting it; for although the fingers of our grandfathers, trained to rely on the unaided senses rather than on meters, scopes, and graphs, might tell them of hard and full pulses, I should not care to depend on my own finger alone for a diagnosis of increased tension.



The pulse wave of high tension is usually like this, with more or less modification, and is distinguished by, first, the rising of the pulse wave above a line drawn from the apex of the line of ascent B to the aortic notch C; second, the height of the aortic notch C from the base line D; third, the extent of the line A D beyond its proper proportion, which should be two fifths of the line A E.

The little point at the beginning is not unfrequently wanting, and the tracing takes this form, which for brevity we call the "square-topped tracing," and which is often seen.

In part of the cases we have here this morning we get these peculiarities, and as well also in a woman in ward G, whom you will see at another time, who entered with a little dropsy of the feet and eyelids and a severe headache. She has a good deal of light-colored urine of low specific gravity, with a very little albumen, but no casts have been found. In another case

we have no indications of high tension, and yet he is the patient whom I have once shown you as an instance of extreme oedema. His urine contains a good deal of albumen and many casts. In these cases, although they are all "Bright's disease" (one of them has also valvular lesion of the heart), we have really two forms of disease, separable clinically as well as pathologically, and I think that Dr. Mahomed, who is perhaps the principal exponent of the high-tension theory, would have considerably strengthened his case if he had borne such a distinction more constantly in mind.

We can hardly proceed further with the subject intelligently until we have said something upon the pathology and classification of the group of diseases known as Bright's.

The kidney is composed of three structures or systems of tissue, — the vessels, the interstitial tissue, and the parenchymatous or the connective tissue and epithelium. The connective tissue, except along the vessels, exists *very* sparingly in the cortical portion of the kidney. Theoretically we may have disease of any one of these structures alone, and hence, when speaking anatomically, we may distinguish interstitial from parenchymatous nephritis, and amyloid degeneration of the vessels from either. Practically, however, these distinctions often hold only as a matter of degree or succession; so, if not the rule, it is at least a *very* frequent exception to find two or three forms combined in the same kidney when the disease has progressed to its full development.

We might arrange the diseases usually and properly known by the name of Bright, who described several forms, in a series beginning with the purely parenchymatous, and ending with the purely interstitial, between which extremes we should find all degrees of intermixture. At the purely parenchymatous end of the scale we should find, I believe, a good many cases, but at the other, *among the cases which have arrived at a fatal termination from the renal disease alone*, few or none. That is, a parenchymatous epithelial disease may so far progress without involving the interstitial tissue, or perhaps I should say without provoking the development of new tissue, as to render the organ incapable of performing its functions; while the interstitial form, although it may, up to a certain stage, be found unassociated with marked epithelial degeneration in cases which have died from other causes, cannot render a kidney useless until decided and extensive parenchymatous changes have taken place. We can easily understand an epithelial inflammation of a low and degenerative type going on without setting up a formative irritation of the underlying connective tissue, especially as this tissue in the kidney is but slightly, and perhaps in some places not at all, developed; while, on the other hand, it is hardly conceivable that healthy epithelium should exist, when compressed by the slowly contracting, cicatrix-like tissue resulting from hypertrophied and newly formed stroma. I believe these views to correspond closely with the clinical facts that, while parenchymatous nephritis is likely to make its appearance with well-marked symptoms like dropsy, often extensive, convulsions, scanty, high-colored urine, with much albumen and casts, the existence of the interstitial is often discovered by accident and from symptoms — for instance, headache, dyspnoea, or loss of vision — not directly connected with the kidneys. At a later stage phenomena indicating failure of the kidneys may arise, and show that the secreting epithe-

lism is being affected. You notice that this arrangement does not include the amyloid kidney. My own experience would lead me to doubt the propriety of making of it a distinct clinical affection, since I have never seen a case of amyloid disease in which renal symptoms were prominent, and in which at the same time other renal disease was absent. It is universally acknowledged to be the local expression of a general disease, and also to be associated in a great many cases with the other forms of nephritis. There is no reason to suppose that in the great majority of cases in which amyloid degeneration of the renal arteries is found after death the symptoms, local or general, have been materially modified thereby. Lecorché goes so far as to say that the albuminuria, which, according to Bartels, is the one symptom without which amyloid degeneration cannot be diagnosed, does not result from amyloid degeneration at all, but belongs to the parenchymatous inflammation which accompanies it. Bartels, however, asserts that he cannot have overlooked such a nephritis, and reports cases where the renal symptoms assumed such prominence, that we can hardly doubt the propriety of making a separate disease of this degeneration. Yet even he says, "I believe we may state that the issue of the forms of disease which are attended by amyloid degeneration of the kidneys depends much more upon the fundamental malady and the simultaneous amyloid affection of other organs than it does upon the renal disease itself." I shall therefore consider, admitting, however, the possibility of an exception to the rule, that amyloid degeneration of the smaller arteries of the kidney is important chiefly as a complication of one form or another of nephritis. If I were to attempt a description of it as a separate disease, I should be obliged to draw upon others for material. In the one case which came the nearest to being pure amyloid, where the liver and spleen were both affected, and where, with a history of syphilis, cicatrices and white nodules were found in the liver, there was, in addition to the fatty degeneration of the epithelium, which might have been a result of the amyloid change in the arteries, and which according to Bartels was mistaken by Lecorché for a true parenchymatous nephritis, a considerable increase of connective tissue.

If we trace the history of the cases corresponding to the series of pathological conditions I have supposed, we find something like the following, beginning with the parenchymatous nephritis: A person is exposed to cold for some time; if observant he notices that his urine is scanty and high colored; he begins to "bloat," perhaps quite rapidly, and this swelling may be extensive, involving legs, genitals, face, with, it may be, some pleuritic effusion, though I think not usually in the early stages. There may be but little pain of any kind, though possibly some in the back, but there is likely to be headache and vomiting. You find a good deal of albumen and casts of various kinds, not including the "waxy." This first attack may of course vary in acuteness and in severity. If very acute or if not severe, as after scarlet fever, for instance, recovery may often be complete; but sometimes in these cases, and frequently in those progressing less rapidly, after a period of improvement, during which the dropsy subsides and the patient feels pretty well, but becomes somewhat weak and anæmic, by and by something of the same kind, on a little exposure, happens again. *Edema of the lungs may be a troublesome symptom,*

and, as I have said before, diarrhoea is by no means an unfrequent or unimportant accompaniment. This may be caused by ulceration of the intestines. The anæmia increases, and a certain amount of dropsy is present, while yet the patient keeps about, and may even do a fair amount of work. For a long time the urine contains much albumen, large, dark casts of degenerated epithelium as well as the waxy. The end is likely to come with gradually increasing weakness, confusion of mind, dullness, delirium, stupor, and convulsions. But all these latter symptoms may, after an illness lasting for years, be crowded into the last few days of life. In such a case as this, as for instance in Jas. C., to whom I have several times called your attention, we are not likely to find the pulse of high tension, at any rate after it has passed the early stages. Dr. Mahomed states that the tension is never as low in scarlet fever as it is in typhoid, for example, but I myself have not had an opportunity to examine with the sphygmograph the pulse of patients either in scarlet fever or in acute nephritis.

If we go to the other end of the series we get a different set of symptoms. A middle-aged, active man suffers from headache for some time. It is supposed to be either an exaggeration of the headache which he has "always" had, or due to overwork. He pays but little attention to it except while it is bad enough to keep him from business. His general health is deteriorated, and his friends say he has been a sick man for some time. He consults a physician for his headache, who finds in addition to the symptoms stated by the patient that his urine has been rather copious, and he has been obliged to get up two or three times in the night. It is light as to color and as to specific gravity. It contains little albumen, and but a few hyaline casts. His eyes are examined, and in the retina are found whitish streaks and patches, with perhaps some congestion of the disk and a few hæmorrhages. Dimness of vision might well have been the first symptom. The sphygmograph gives us a characteristic "square-topped" tracing of high tension. The impulse of the heart is powerful, and its area of dullness enlarged. The headache (probably accompanied by vomiting) yields, very likely, to nothing but morphia, which is probably kept as a last resort. After a few days of severe headache a hemiplegia is noticed, which, if the hæmorrhage is large enough, may either terminate life, or simply add one more to the patient's afflictions.

Dyspnoea, to account for which perhaps you can find some oedema of the lung, but which goes and comes, and seems to be, in part at least, of a nervous character, is likely to be a troublesome symptom. Dropsy may be absent or very slight, beginning in the paralyzed hand, and affecting the feet only after the circulation has become very feeble. Delirium may be present for weeks, even while the patient is able to walk about or ride out.

One patient, a commercial traveler, was constantly wanting to go to some other hotel, and for a long time up to a few hours before his death walked the room, with swollen feet and staggering gait, with a carpet-bag in his hand, anxious to get away to catch some train.

A case with fewer symptoms, but none the less instructive on that account, we have here, and I hope it will be a long time before we trace her further history: This woman, aged forty-five, had severe headache.

When she entered the hospital she was very pale, and had a little oedema of the upper eyelids and of the ankles. Her pulse manifested high tension, as you see by the tracing. Her urine was at first of specific gravity 1005, then 1007, 1008, and now 1012, light colored, containing a faint trace of albumen, but on repeated examination no casts. Under the influence of rest, which I cannot consider the least important part of the treatment, occasional laxatives, bromide of potassium, and iron, she has lost her headache and dropsy, and is much improved in appearance. Her tracing, which I take now, still shows high tension, but is, I think, less marked than when she entered. Is this a case which is likely to become one of interstitial nephritis? Can we stop it? To the first of these questions I must answer that I think it is; to the second, it is not easy to say. The apparent success which a physician meets in the treatment or prevention of diseases reported incurable depends very largely on his mental constitution. The sanguine man thinks he has cured many cases; the man of an opposite temperament, when the recovery, faithfully but perhaps not very hopefully worked for, takes place, is much inclined to doubt his own diagnosis. When this woman goes out, as she soon will, I shall advise her to take life as easily as her necessities will permit, to see that her bowels are kept well open, to use bromide of potassium if her headaches are severe, and occasionally to take iron. She ought especially to avoid long exposure to cold, not for fear of making her interstitial nephritis worse, but because she may engraft upon it parenchymatous disease.

(To be continued.)

Original Articles.

THE IMPORTANCE OF THE EARLY RECOGNITION OF EAR-DISEASE.¹

BY J. ORNE GREEN, M. D., BOSTON.

ALTHOUGH the term modern may be with justice applied to almost the whole of our pathological knowledge, it is still more applicable to our acquaintance with the changes produced by disease in the ear, for before the time of Toynbee (1840-1866) but few attempts had been made to determine anatomically the variations in the tissues which resulted from aural disease. Since that time, however, great progress can be claimed not only in the grosser pathological anatomy, but also in the pathological histology of the tympanum and its conducting apparatus, and this, with our increased appreciation of the physiological functions of the different parts of the ear, and improved methods of examination, gives a basis for the clinical study and treatment of the diseases of that organ which will compare favorably with that used for almost any other organ. The cloud of mystery which formerly involved the diseases of the ear is rapidly dissolving, and deafness can no longer be spoken of as a disease, but merely as a symptom capable of explanation from pathological tissue changes which interfere with well-known and well-established physiological and physical laws.

Notwithstanding the very decided advance in our knowledge of the normal and pathological physiology

and of the pathological histology of the tympanum, the fact, however, remains that many diseases of the ear and of the tympanum itself, as they are presented to the practitioner, are either irremediable or capable of but partial improvement, and to some of the reasons for this intractability attention is asked in a general way in this paper.

According to our present knowledge, the tympanum, including the drum membrane, the chain of ossicles, the cavity itself, and the secondary membranes leading to the labyrinth, with their muscular and nervous adjuncts, are the most frequent seat of disease, and the majority of the pathological changes which have been found on dissection as occurring in these parts may be classified under the three heads of hypertrophic, adhesive, and destructive processes. Of hypertrophic and adhesive processes in general it may be said that from their very nature they require time, and usually a long time, for their development; although the same remark is not so strictly applicable to the destructive processes, as it is well established that rapid ulceration and destruction may occur, still, the viability of tissues, and especially of tissues having an important physiological function to perform, like those of the tympanum, is so great that even these may be considered relatively slow, although they take place much more rapidly, and often, than either of the other two changes. Of all these processes it may be said that they are secondary to some variety of inflammation, and are rather the results of disease than the disease itself. Clinical investigation may fairly claim to have traced these pathological changes to their origin, and to have established the fact in regard to the ear which general pathology has established in regard to such processes in general, namely, that they are the result, as has just been stated, of inflammation in the tissue in which they are found.

All of these inflammations are varieties of inflammation of the mucous membrane of the tympanum, and the majority of them are either serous, mucous, or purulent catarrh of that membrane. The serous variety is characterized by hyperæmia, serous effusion, and oedema of the subepithelial connective tissue, ending in perfect resolution and absorption, or else in general hypertrophy of the mucous membrane, or in adhesive inflammation, which is a very common result of this disease. In 1013 diseased ears Toynbee found adhesive inflammation in 202, or twenty per cent. The adhesion is brought about in the following way: by a change of position in the tissues, due either to swelling or to collapse of the drum membrane from closure of Eustachian tube, two epithelial surfaces are brought in contact; from the pressure the epithelium is destroyed, and the tissue becomes changed to granulation tissue, and by proliferation from the protuberances adhesion takes place, and the new tissue then undergoes cicatricial contraction. In this way broad or narrow synechiæ are formed, which, if they involve the important parts of the conducting mechanism, most seriously impair the hearing. With the general hypertrophy of the mucous membrane the conducting mechanism must be more or less involved, as it is everywhere covered with the mucous membrane.

With the mucous catarrh there is a universal hyperæmia of the mucous membrane, with a serous and cellular infiltration of the subepithelial connective tissue; the epithelium is retained; as the result of hypersecretion of the tubular and racemose glands of the tym-

¹ Read before the Massachusetts Medical Society, at its last annual meeting, and recommended for publication by the society.

panum, there is more or less free mucus mixed with triple phosphates and other crystals in the cavity. This condition is capable of complete retrogression, the membrane returning to its normally delicate and elastic condition; but when it passes into chronic catarrhal inflammation the cellular infiltration becomes organized; the membrane looks bluish-gray or white, is much firmer, stronger, and more vascular, from a varicose condition of the blood-vessels, and we have the thickening which, if it involves the conducting mechanism, very seriously impairs its functions.

The purulent catarrh is characterized by hyperæmia, enormous swelling, and œdema of the mucous membrane, with a secretion of pus cells, granular corpuscles, granules, epithelium, and detritus. The swelling is due to enlargement of the blood-vessels, with cellular and serous infiltration of the connective-tissue stroma; the epithelium is destroyed. The disease is distinctly ulcerative, and may result in great destruction of tissue. It also is capable of complete retrogression, but it may result in hyperplastic processes, forming nodules, villi, and papillary growths; the abundant infiltration of round cells in the middle of the mucosa may become organized, or calcifications may occur. In addition to these tissue changes, irreparable destruction of important parts may take place, or caries or necrosis be produced in the bone.

Besides these pathological conditions from the three varieties of inflammation, still other tissue changes are described by Schwartz, which may result from these inflammations when chronic. In a small proportion of cases there is found a distinct connective-tissue sclerosis of the deep periosteal layer of the mucous membrane, showing tendinous bundles of homogeneous, brittle, opaque fibres in the deeper layer, while the subepithelial connective tissue remains normal. In still a larger proportion of cases the deep periosteal layer is impregnated with finely granular lime salts, and with spots of ossifying periostitis.

The influence of these tissue changes may be understood when it is remembered that the drum membrane, the chain of ossicles, and the secondary membranes constitute the conducting apparatus of the ear, and must necessarily be capable of the most delicate pendulum vibrations. If hypertrophy of the tissues covering this minute apparatus exists, the vibration previously able to cause a certain displacement of the conducting apparatus is no longer able to produce the same effect; the pendulum adapted to tick half seconds cannot be increased in weight without changing the character of its work. If adhesive inflammation has occurred, by which new bands and threads of tissues are found between different portions of this same conducting apparatus, its vibratory power is interfered with. If destruction has taken place the capability of vibration is much reduced.

Of hypertrophic and adhesive processes it may be said in general that, once thoroughly established, they cannot, as a rule, be removed — that is, if true hypertrophy has occurred and new fibres of tissue have formed, these new fibres remain as a part of the body; if true adhesion has taken place between two surfaces, those surfaces remain adherent. Certain it is that in the tympanum this is the rule; but in this small cavity, when either of these pathological processes occurs upon parts or the whole of the conducting apparatus, there is more to be feared than the simple weighting or binding down of the vibrating pendulum which results from the in-

creased tissue or the adhesive bands. It is a characteristic of both these processes that they very frequently undergo gradual changes after the hypertrophy or adhesion has taken place; that the new tissue and the adhesions become firmer with age, undergoing what may be compared to cicatricial contraction, the result of which in the tympanum is a much greater interference with the vibratory power of the conducting apparatus than would be at first suspected from the mere increase in the tissue growth.

As the advance in our therapeutics has not kept pace with our pathological knowledge in regard to the tympanum (and the same may be said of almost every region of the body), the study of the earlier diseases which produce these tissue changes becomes of the greatest importance; for if the various forms of inflammation which precede and cause these hypertrophies, adhesions, and destructions of the conducting mechanism of the tympanum are as rebellious to treatment as these changes in the tissues are when they have once formed, but comparatively little can be expected, at least at present, for the relief of many of the pathological conditions of the ear. Fortunately, however, such is not the case; the earlier and more acute forms of tympanic disease are as amenable to treatment as are similar diseases in other organs, and the principles of rational medicine can be as well applied here as elsewhere. Nature herself, in the way she cures innumerable ear-diseases, and without whose aid it is safe to say three fourths of the human race would still be suffering from imperfect tympana, has pointed out a method by which a cure can be effected; and in large numbers of cases where she herself is unable to relieve, assistance from art in the direction she has pointed out in other more fortunate cases is sufficient to restore the parts to their normal condition. To accomplish this, however, it is necessary to watch the course of the disease in its earlier stages, prepared to assist nature by art if necessary, and it is imperatively demanded that such assistance should be rendered before the irremediable tissue changes, already described, have taken place. The natural history of the various forms of tympanic inflammation thus becomes an all-important factor in the study and treatment of these diseases.

Unfortunately, many of the primary inflammations of the tympanum come on so insidiously and with so little inconvenience to the patient that the very slight symptoms which exist are ignored or soon forgotten from the patient becoming accustomed to them, and it is only months or years even afterwards, when the tissue changes have made considerable progress and the interference with the functions of the ear has become so great as to produce inconvenience in the ordinary affairs of life, that relief is sought.

This ignoring of the earlier symptoms of tympanic disease, and the consequent neglect of treatment at the time when it could be of value, is one of the most prolific causes for the numerous unfavorable prognoses which must be given when the sufferer applies for relief. Not infrequently it happens that the patient denies absolutely that any symptoms have preceded the existing deafness, but in so many cases close questioning will develop the existence of this or that symptom, often so long before as to have been forgotten entirely, that it seems probable that in almost all cases there were originally some antecedent warnings. The following could be taken as a very common example: the patient gives a history of gradual deafness, without sub-

jective noises, of six months' duration, and denies absolutely any preceding disease in the ears; examination shows a drum membrane generally opaque from thickening in its mucous layer, very considerably retracted and immovable, the Eustachian tube closed tightly. Inquiry elicits the fact that three years before he does remember that, with a very severe cold, the ears felt tight and full, and there were for a time violent subjective noises which ceased gradually; that he regarded it as "nothing but a cold;" now that you ask him, however, he remembers this or that circumstance when he suspected a little deafness much longer ago than he had at first stated. The facts evidently are that three years before, with an acute catarrhal inflammation of the naso-pharynx, the mucous membrane of the Eustachian tubes and tympanum were also inflamed; the trouble of the naso-pharynx passed off, but the mucous membrane of the tympanum remained congested and swollen; as the result of this continuous inflammation hypertrophy of the membrane has occurred and increased, till it has most seriously impaired the hearing.

Or, again, another very common history is that the patient has been subject to slight deafness with each cold in the head for a number of years, till finally the deafness has become so marked as to be a serious inconvenience. Then, and not till then, relief is sought, and examination showing very decided tissue changes the prognosis is necessarily much less favorable than it would have been in the preliminary stages of inflammation. In children it frequently occurs that examination shows the drum membrane completely collapsed against the inner tympanic wall, and firmly adherent to this wall, so that it cannot be separated; or else it is retained in its abnormal position by inflammatory retraction of the tensor tympani muscle and of the hypertrophied tissues, a condition originally produced by closure of the Eustachian tube, and which would in all probability have been removed by any of the simple methods of opening that tube, or even by a little judicious blowing of the nose, which, by relieving the obstruction of the blood-vessels and the consequent congestion, would have allowed nature to clear up the pathological products and would have restored the parts to their natural condition.

Another very common reason for ignoring the earlier symptoms of tympanic disease, even when they are very marked or possibly severe, is the slight improvement which often occurs spontaneously after a time, and which leads the patient to think that all trouble has been averted,—an improvement which is quite often fallacious in that it deceives the patient into a sense of perfect security, whereas it is simply a transition from the acute into the chronic inflammation. Such an improvement is seen often with acute catarrhs of the tympanum: the subjective noises and the pain cease after a time; the sense of fullness in the ear the patient becomes accustomed to, and it is forgotten; the obstruction of the Eustachian tube with the congestion and swelling of the tympanic mucous membrane, however, remain, and gradually produce the hypertrophy which months or even years after leads the patient to apply for relief from what has become, with the lapse of time, an incurable deafness.

Instances might be multiplied almost indefinitely of simple and remediable diseases becoming hopeless from these changes in the tissues, which have come on gradually as the result of preceding inflammation.

That the interference with the functions of the ear, the deafness, which appears as a rule gradually as the tissues become hardened and retracted, is not more frequently recognized in its incipency can only be referred to a want of appreciation of what deafness is. Nothing is more common than to hear a patient or his friends say that he is not deaf, because he can hear what is said to him across a moderately sized room; they being apparently wholly ignorant of the fact that deafness consists in the inability to hear a sound of a given intensity or loudness at as great a distance as normal, and that, although he may hear a loud voice at a distance of twenty feet, he should, in a normal condition, hear the same voice at one hundred feet, in reality four fifths of his hearing for that particular sound being lost. The extreme limit of hearing power is but seldom used in the ordinary affairs of life, and as far as our daily business life is concerned we may each be said to be endowed with a large amount of superfluous hearing, which may be lost with scarcely any inconvenience to ourselves.

Again, the merciful provision of nature, which has endowed each of us with two independent organs of hearing, is often lost sight of in estimating degrees of deafness, it being forgotten that a person may be very deaf with one ear, and yet hear so perfectly with the other that the defect is not noticed. Indeed, the records of the consulting room show large numbers of cases where increasing trouble in the good ear is the cause of the patient first applying to the physician; and he is astonished, and often incredulous, at being informed that one ear has evidently been practically useless for a long time, and that the inconvenience he has been experiencing is due to more recent disease in the other ear.

It will be asked, What is the remedy for all this? How are these very serious results to be guarded against? The only answer is that, as the histological changes are, in the majority of cases, irremediable in themselves, and as they are secondary to and the direct result of other diseases, the primary disease, for which treatment is often of great value, requires very careful attention. Symptoms, however slight, should not be neglected; the natural course of the disease, whatever its variety, should be understood, and its course watched; if necessary, local or general treatment should be used to assist nature; and, finally, the case should remain under observation till recovery is perfect, or as nearly so as the particular disease will admit. This latter point, the insurance of perfect recovery, is all-important, for a little remaining disease may be sufficient to produce the hypertrophy of the mucous membrane, which will go on insidiously for a long time before it is noticed by the patient.

To recognize and fully appreciate all of the minute changes which can be seen by the otoscope is undoubtedly a task requiring much time and practice; but the clinical histories and rational signs of the various diseases are well described in the numerous books on the ear; and in the tests of the hearing we have a very useful means, although not infallible, of judging how the disease is progressing. If more attention was paid to the degree of deafness, or perhaps it would be better to say of hearing, in the earlier stages of tympanic disease, there would be much less of the incurable secondary processes. By occasional careful testing, the gradual loss of hearing would be noticed almost as soon as it began, and the improvement which often follows well-marked acute disease would be by this means

early discovered to be merely fallacious. The importance and the methods of applying simple tests for the hearing should be known to every practitioner. I have already called attention to the fact that a person may be extremely deaf in one ear, and yet with the remaining good ear hear so well that no defect is noticed; but I have known physicians themselves to say of such a case that they did not believe there could be any deafness, simply because they had never tested the hearing of the two ears separately. It would seem superfluous to notice, but experience shows, that the failure to close one ear when testing the other, is a very common source of error. The first step in testing, then, should be the closure of the opposite ear with one finger.

Having done this, the open ear should be tested for the distance at which both the watch and the voice can be heard; not whether they can be heard at all, but whether they can be distinguished as far as normal. In regard to the watch, it should be remembered that the intensity of the ticking varies in different watches, and for comparative tests the same watch should always be used, and the normal distance established by tests on normal ears. It should also be borne in mind that the normal hearing distance for the ticking of a watch varies with age, being very much less in old persons than in children. With the voice the hearing distance should be established in the same way; but as it is generally impossible to get space enough to thoroughly test a clear, distinct tone, that is, as it is impossible, for want of space, to reach anything like the normal distance for that tone in ordinary houses, it is necessary to lower the intensity of the tone to make the normal hearing distance for that tone correspond, approximately at least, with the size of the room in which the test is made. Having done this, words or short sentences should be used, and the patient required to repeat them; for if this repetition is not insisted upon, many patients will assert positively that they understood, when they have merely heard the sound of the voice, but have been wholly unable to distinguish the words. It is also well to use a number of different words or sentences, as certain letters of the alphabet have much less distinctive sounds and are much less readily heard than others. If this caution of employing several sentences is used, however, it can scarcely occur that in each of them these difficult letters and sounds should predominate.

Having determined the distance at which both voice and watch can be actually heard, and knowing the distance at which they should be normally heard, the hearing for that case can be well expressed for practical purposes as a fraction, the numerator of which is the actual distance, and the denominator the normal distance. The necessity of testing for both watch and voice depends upon the fact that the hearing for the two is by no means always proportionally the same; while it may be very good for one, it may be very bad for the other. This is seen especially in the class of cases where the degree of hearing enables us to judge very fairly how the case is progressing, and whether any treatment for the restoration of the functions of the ear is absolutely necessary; these cases are those of acute tympanic inflammation, where, as the inflammation subsides, the hearing slowly returns, but much more rapidly, as a rule, for the voice than for the watch, so that it is found when the hearing for the watch is only perhaps $\frac{1}{4}$, that for the voice will be $\frac{1}{2}$.

In children the test for the watch is often uncertain, from fright, mischievousness, or lack of intelligence on the part of the patient, but that for the voice can generally be made effectual by a little ingenuity on the part of the physician in asking questions on subjects in which the child takes an interest, the answers to which will show that the question was well understood.

In all testing great care should be taken to exclude the imagination, which is not infrequently both active and ingenious in deaf persons. If such tests were in common use, it would often be found that the cessation of pain, discharge, and other well-marked symptoms did not necessarily imply a restoration of the ear to its normal condition; any deafness would be by this means discovered early, long before it had begun to inconvenience the patient, and the question of treatment could be determined before the serious and irremediable tissue changes had come on, at a time when treatment is, in a large number of cases, of real positive value.

CEDEMA OF THE LUNGS, WITH CASES.¹

BY HENRY F. BORDEN, M. D., BROCKTON, MASS.

To choose a subject to write upon, and read before a body of medical men, at the present day is not an easy task. I do not mean to imply that medical subjects have been exhausted, for the field for work and the amount of material to work upon seem as large as ever, and the chance for seeing the end is not a very brilliant one for those engaged in investigation. Circumstances often give one an opportunity to choose a subject for discussion which may be interesting to himself, if to no one else. My experience during the past year has interested me in cedema of the lungs, having lost a patient under very trying circumstances with this sudden and fatal malady.

I have received the histories of three other cases, which occurred in the practice of neighboring physicians, two being out of town, and the third in the practice of Dr. A. E. Paine, of Brockton. Only two of these seem to have been pure cases of pulmonary cedema, the third, in all probability, being embolism of the pulmonary artery without manifestations of dropsey.

After reviewing the cases, and considering the causes which can produce the different forms of cedema, I shall endeavor to make a practical application to each case. Through the courtesy of Dr. F. C. Shattuck I have been able to collect a few notes on experimental research as to the cause of pulmonary cedema, published in Virchow's *Archiv* of 1878, and in German medical pamphlets by Welch, Mayer, and others. I shall first report the cases and then discuss the causes.

CASE I. Mrs. M. S., aged twenty-four years; occupation, housewife. Grandparents on father's side lived to an advanced age. Grandmother on mother's side died of organic disease of heart, at seventy odd years of age. Father and mother are both living, and enjoy good health. I have attended both at different periods for slight sickness, but for nothing of a severe type. Lost one brother by diphtheria, and one sister with pulmonary phthisis following typhoid fever. Has three brothers and one sister living, and in good health.

¹ Read before the Massachusetts Medical Society at its last annual meeting, and recommended by the society for publication in the JOURNAL.

The subject of this history was a picture of health. I had known her from childhood, and attended her for slight attacks of "nervous headache," which were of a congestive form, being accompanied by a rush of blood to the head and face, without dyspeptic complications, being easily relieved by the use of bromide of potash or belladonna. I never knew of her being otherwise sick. About the fifth month of her pregnancy I was called by her husband to see her. I found her feeling quite happy, but presenting a general oedematous condition of face, hands, and limbs, although not to an alarming extent; the breathing good; action and sounds of heart normal; digestion good; bowels correct; the urine passed as usual. On examining the urine I could detect nothing abnormal: no albumen, no casts, no sugar, nor even anything that denoted a disorganized or disordered condition of any organ. I examined the urine from time to time with the same result. She never exhibited any signs of uræmic poisoning, either by looks, spasms, or any other condition, to the time of death. She continued in about this same situation until the day of her death. I ordered moderate doses of potass. bitart. to be taken daily, with a marked increase in the amount of urine passed, although there were not at any time symptoms of diminution of this secretion, as far as her history showed, before I saw her. I recommended moderate exercise, fresh air, avoidance of over-exertion and excitement, together with good nourishment, all of which she had. The fl. ext. jaboraudi was given a few times, but no increase in the urine passed was observed over that produced by the potash. On the afternoon of the day of her death (about three P. M.), I was summoned in haste to see her. On arriving, I found her much changed. There was increased oedema generally; marked lividity; pulse nearly one hundred beats per minute, and much weaker than usual; no rise in temperature; intellect clear; some dyspnoea, but less than previous to my arrival, according to the family's statement; extremities cold and oedematous; dullness over the lower two thirds of both backs, with subcrepitant râles, and supplementary loud breathing over the upper half of lungs in front, with normal percussion. I ordered stimulating applications to back, and gave tinct. digitalis and whisky, all that was at my command. The heart showed nothing but diminution in strength of action, and neither murmur nor irregular action could be detected. She received relief from this treatment, and felt quite comfortable until evening, the lividity and weak symptoms disappearing rapidly. At about forty-five minutes past eight P. M. she was taken in labor, — it being full term, — and upon arrival I found the "os" dilating rapidly, and the pains unusually strong and frequent. She was able to lie down, and expressed herself as feeling easier and better able to breathe than at any time during the day. Her labor continued regular until about forty-five minutes past nine P. M., or one hour, when the membranes, which had descended very low, ruptured, and immediately she exclaimed, "There is water escaping from me!" while her breathing became labored and heavy. I endeavored to give her some wine, but she could not swallow, and as her breathing was growing more difficult, and amounting to dyspnoea of the worst sort, I threw open a window and commenced artificial respiration, but to no purpose, as her face was blue as slate-stone, and a stream of pink frothy serum gushed from her mouth and nostrils in sufficient quantity to saturate all the clothing about

her and the bed. She was dead in less than two minutes from the time the waters escaped. The heart was the last to give out, continuing to beat slower and weaker until it stopped, even after respiration and life had ceased. The general oedema after death was enormous. During the interval between her first attack in the afternoon and her death, the pulse had beat as full and well as could be desired in almost any case. No autopsy.

CASE II. Mrs. A., aged about twenty-seven years; occupation, housewife. The physician in charge had examined her urine with negative results. She showed but little general oedema, and that only about two weeks previous to her death. She had not arrived at full term of gestation, and was consequently not in labor at the time of her death. There is heart disease in the family history, but I have been unable to find that she was the subject of any such trouble. Her general appearance was that of one in usually good health. The fatal termination was as follows: She awoke her husband at about three A. M., and told him she could not breathe; he arose and assisted her to the adjoining room, where she sat down, and died almost instantly. Medical aid was summoned, but too late to render assistance. The physician was informed that she died by being "filled up with frothy water," and he thus described her appearance as he found her: "Extreme cyanosis, frothy serum in large quantities about the mouth and nostrils, and an enlarged, distorted look of the face." There can be but little doubt that this was a pure case of non-inflammatory oedema of the lungs.

CASE III. is one where a doubt exists whether oedema was a cause of death. A clot of the pulmonary artery is, to my mind, the cause that entered most prominently into the case as a chief factor in its production. I shall omit the history of this, and proceed to detail Case IV.

CASE IV. O. G. T., aged fifty-eight years; occupation, dealer in horses, — hence he was employed out-of-doors the greater part of his life. He was one of our best-known citizens, and was acquainted extensively with all parts and people in Brockton and vicinity. He came of a healthy stock, and was himself as robust and strong a man as one will often meet. He was never ill, to my knowledge, but once, and that about three years ago, when he was seized with an attack, at first feared to have been apoplexy, but which proved to be a disturbance in the cerebral circulation, due to a reflex influence from a badly disordered digestion. He completely recovered from this attack, as far as can be ascertained, and has been as robust as ever. Dr. A. E. Paine, who was summoned at the time of his death, assures me that no cardiac disease ever existed, or was ever suspected, and furnished me with the history of his condition at the time of death. He was a man of excitable temper, and on the day of his decease had some business trouble which worked him up to a high pitch of irritability; and from the nature of this trouble, I should suppose it must have continued to torment him during the few hours that he lived. He continued out-of-doors as usual until after six P. M. on the same day, and complained only of having caught a slight cold. He retired as usual between nine and ten that evening, and, after he got into bed, requested his wife to bring him some little remedy, which it was his custom to use for colds. She found him getting up on her return, and asked him why he was doing so, when he had just time to tell

her he could not breathe, and fell back into a chair dead, and at the same instant a stream of frothy serum flowed from the mouth and nose in a quantity amounting to more than three pints. His face was cyanotic and puffy. This serum continued to flow from the same avenues all night. No autopsy could be obtained in any one of these cases, and certainly I do not think it was at all needed to establish a diagnosis. Before considering the causes in these cases, I will give a résumé of the results attending the previously mentioned experiments, to determine what *will* and *will not* cause œdema of the lungs. The experiments were mostly made on rabbits and dogs. Welch remarks that none of the explanations of the causes of acute general œdema of the lungs up to the present time have been satisfactory.

I. That increased action of the heart alone is not sufficient is proved by cases of compensated mitral stenosis, in which the pressure in the pulmonary artery must be greater than in a heart offering no impediment to the onward flow of the blood; and that the resistance of the pulmonary capillaries is full as great as that of any others.

II. The rarity with which pulmonary œdema follows direct irritation of the lungs from the inhalation of irritating substances, and the like, renders it very probable that it has the same cause (when it is met with) as the œdema which ends in death from all sorts of causes (according to Welch), *paralysis of the left heart*.

III. Collateral hyperæmia. Two essentially different conditions are generally included under this term.

(1) Acute general œdema occurring in the course of diseases which involve an impediment to the circulation in a portion of the lung; and (2) local œdema about inflammatory foci and new formations, *which* œdema bears a constant proportion to the size and extent of such foci in growth. By cutting off three fourths of the circulation of the pulmonary artery, Lichtheim was able to show that difficult circulation in a portion of the lungs is not sufficient to cause general œdema. General œdema is not a constant result of embolism of the pulmonary artery, and must have associated cause or causes to produce it.

In the case of local œdema, the most important factor is inflammatory changes in the walls of the vessels, facilitating serous transudation.

In passive œdema two causes have been assigned: (1.) Accumulation of blood in the pulmonary veins from valvular disease of the heart; not liable to occur, for the reason that as long as the obstruction is compensated by increased work on the part of the right ventricle, œdema does not occur (compensated mitral stenosis).

(2.) General cardiac weakness. Syncope never leads to œdema of the lungs. By irritation of the vagus, paralysis of the heart can be induced, but œdema does not follow. In rabbits, œdema takes place only when one carotid or one subclavian is the sole passage of the arterial blood from the heart. In dogs, the general circulation must be still more impeded before œdema occurs, or the pressure in the pulmonary artery is markedly increased.

Occlusion of all the pulmonary veins of one lung is not sufficient to produce œdema, *but* hæmorrhagic infarction. In fact, almost all the pulmonary veins must be tied, in order to produce œdema or perceptibly increase the pressure in the pulmonary artery.

Suppose, however, that the left heart is paralyzed while the right continues to work and drive in more blood than the left ventricle can dispose of, congestion of the lungs results, and is followed by œdema.

Mayer finds: That if the great arteries leading to the brain were occluded, in non-curarized animals severe convulsions followed, and in a great majority of the cases extensive pulmonary œdema. In curarized animals treated in the same way œdema did not occur. The œdema was so marked as not to require a post-mortem to establish it; the tracheal canal was filled with reddish frothy fluid in from one to two minutes after occlusion of the arteries, and immediate artificial respiration was fruitless. Arterial tension is greatly increased by anæmia of the brain, and the forcible respiration and muscular spasms, causing constrictions, force the blood upwards to the right ventricle.

In short, causes which hinder a free discharge of blood from the left ventricle lead to œdema of the lungs. In curarized animals, muscular irritability is abolished.

So much for results obtained by experimentation on healthy animals with regard to œdema of the lungs. The only mention made in books of midwifery, that I have seen, is by Cazeaux; in speaking of the prognosis in œdema in pregnancy without renal complications, he says, "Sometimes after delivery the disappearance of the infiltrated liquid has been followed by a serous congestion of the nervous centres or the respiratory organs, often terminating in death." He thus recognizes the fact of a sudden accumulation as well as disappearance of serum in limited localities, without attempting to explain the cause of it. It is evident to all that when an inflammation exists in the lungs, either as pneumonia, an inflammatory process around a mass of tubercular deposit, or any sort of neoplasm, there must be more or less œdema, just as one sees it in cellulitis when a slough of the subcutaneous tissue is the cause. It is therefore unnecessary to dwell upon circumscribed inflammatory œdema, or that due to mechanical obstruction of a portion of the lung circulation, from either disease or growth. In Bright's disease, or destructive nephritis, or uræmia during pregnancy, I think one explanation of the cause of œdema is the poisoning of the nervous centre of the action of the left heart, and consequent paralysis and œdema, instead of the local irritative effects on the mucous membrane of the lung area; although I can conceive it possible for the walls of the vessels to be weakened by a sort of continued inflammatory process by this action of urea in the blood, and transudation made more easy. One physician of eminence suggested that an eczematous condition of the bronchial surface might exist, without febrile manifestations, which I think possible, and can conceive how such a condition might affect the integrity of the capillary walls. I have not seen anything to lead me to suspect that as a cause in the cases given.

The conditions for the production of acute general non-inflammatory œdema of the lungs seem to me to be twofold, namely: (1.) A cause or causes which first lead to accumulation of blood whose local pressure becomes greater than normal, varying in intensity according to the agents in its production. (2.) A certain loss of natural vitality and power to resist serous transudation in the walls of the vessels, brought about by a change in their nutrition due to some abnormal condition, either recognizable or not. The causes of accumulation, as shown by experiment, may be summed up in

a few words. Paralysis of the left heart; obstruction to the direct flow of blood from the left heart; obstruction to the pulmonary veins; anæmia of the brain by sudden occlusion of the great vessels leading thereto, seem to be the chief causes of congestion of the lungs. A deficient supply to the lungs, as would be the case in embolism of the pulmonary artery, is not regarded as a sufficient cause alone. Of all these causes of congestion, only one or perhaps two were sufficient to carry the process to œdema. These were paralysis of the left heart and sudden occlusion of the large vessels leading to the brain. We must remember that these experiments were carried on in small rabbits, whose tissues were undoubtedly in the best possible condition, and not in full-grown men, whose heart power is so much greater, and whose tissues, at least in those people thus attacked, must be more or less deficient in resisting power.

Whether the minute arteries undergo fatty changes or their walls become thinned, I cannot say, but one would hardly expect to see œdema occur in perfectly healthy well-nourished subjects. In case I am right, and deficient nutrition is one of the causes which favor transudation, then I think it may occur under circumstances which will favor congestion, brought about as follows:—

Supposing an irritation of that portion of the cardiac branch of the vagus, which is said to govern the vaso-motor apparatus regulating the minute vessels of the pulmonary circulation, should result in paralysis of the same, then complete dilatation of these vessels must follow, and as their calibre is increased, the force of the pulmonary circulation is distributed over a larger space, and the current of blood is proportionately slower; and with increased action of the right heart there would occur a crowding of the capillaries, and consequently increased blood pressure with serous transudation in cases where the subject is fit for such a change. Supposing the nervous influence of that portion of the vagus governing the right heart should produce an increased action, and that of the left heart a decreased action, then it is evident that sooner or later an overplus of blood and increased pressure in the lungs must be brought about, and where long-standing disease or unknown deficiency in nutrition of the arterial walls exists, serous transudation or œdema must follow to a greater or less extent, in my opinion. That these sudden rushes of blood to and from different portions of the body are due to nervous agency acting through the vaso-motor system, no one will dispute; the blush on the face, either of shame or of excitement, illustrates this. So in these cases of œdema, I can see no other explanation but that nervous action is the prime mover in the production of those sudden appearances and disappearances of serous collections. In Virchow's *Archiv* of 1878, the results of three autopsies on male subjects who died of general œdema of the lungs are reported. There was not a sign of heart disease, arterial occlusion, or anything abnormal to be considered as a cause, but the lungs were in a state of œdema, and that was all which could be said. General œdema is not caused by a pulmonary artery embolism alone; but death from this is undoubtedly accompanied by some œdematous effusion, not alone sufficient to produce death.

In Case I. there may have been a clot, but I doubt it. The symptoms of a clot are as follows: Death may suddenly occur without any marked symptoms.

When the clot partially fills the pulmonary artery, a systolic murmur may be heard over the left second intercostal space, or at the base of the heart; but this is not a certain symptom, as other causes may produce it,—dyspnoea, cyanosis, irregular action of the heart, expectoration of bloody sputa, cerebral disturbance, etc. In Case I. the serum collected rapidly in the afternoon, until the posterior two thirds of the lungs were filled, and in about two hours subsided, the heart's action continuing regular, but weaker, during this onset. No pain, no cerebral trouble, whatever. I cannot believe that a clot in the pulmonary artery could form and cause this amount of œdema, or be a factor in its cause, and the system become tolerant of its presence in so short a time as to calmly return to so comfortable a condition as subsequently existed. In the evening the whole process was repeated, and the waters returned and in two minutes' time filled the tubes to overflowing. It seemed to me too regular and gradual for the sudden production of a pulmonary clot to have taken place. Paralysis of the left heart could not have existed, for the pulse must have stopped immediately. No evidence of sudden occlusion of the cerebral vessels showed itself. We must fall back on a nervous origin, I think. I have been tempted to regard the sudden rupture of the membranes and escape of the amniotic fluid as the shock that excited to action the agents in the production of the œdema. As the other cases had no physicians to watch the failing pulse and vital powers, I shall not attempt to name the exact cause that originated these fatal conditions, but leave them as members of the same family. It is self-evident that any disease that affects the tone of the system, impedes the circulation in the lungs, or taxes the vital powers, must render the accumulation of serum more speedy and fatal. The lungs being in continual motion in the acts of inspiration and expiration, in my opinion, renders the chances of œdema of these organs more liable than in any other parts.

The treatment of œdema in its active state depends on the amount of lung substance involved. When it is limited in extent, counter irritation and tonics to the sympathetic and circulatory systems are the agents most generally indicated. If the trouble is extensive and general, as in the cases above cited, practically nothing is of any avail, although artificial respiration should be tried as the only means to seize upon. Prophylactic treatment is to be mostly depended upon, and if the theories advanced be correct, it is evident that good nourishment and tonics, such as iron, bark, and such others as the case in hand shall indicate, are the articles to be used in order to maintain the proper tone and integrity of the system and tissues. Quietude of mind and body to save the strength, mild diuretics and diet to maintain regularity in the bodily functions, fresh air, and a moderate degree of exercise, avoiding fatigue, and the strict observance of the general laws of hygiene are all desirable. If I were to favor the use of any particular drug, I think iodide of potash would be as good a general medicine, providing the stomach bore it well, as I know of. If these means should fail, I do not see any way but to trust to nature and accept whatever comes as inevitable.

I have written this paper for two reasons: first, because of the interest which I have taken in the subject, from being thrown in contact with it under peculiar and trying circumstances, and secondly, because I believe there have been many deaths from this disease

which have been dismissed as congestion of the lungs, or under the still more vague term, heart disease, and nothing more thought of it, as long as the friends and family were satisfied.

I do not claim to have given a solution of the causes or conditions of its occurrence, but if I have brought it sufficiently before the profession, and rendered it deserving of more attention and study, it may be the means of making physicians more cautious in cases where oedema exists, especially in pregnant women, even without renal trouble. I think that this condition has been regarded too lightly, and the care of such patients should be made a more careful study than has been the custom in time past.

RECENT PROGRESS IN OBSTETRICS.

BY W. L. RICHARDSON, M. D.

INTRA-UTERINE VACCINATION.

FOLLOWING out the ideas suggested by Professor Bollinger (Munich) in his monograph published in Volkmann's series, Dr. A. E. Burckhardt¹ gives the result of some experiments made in the obstetric wards in the hospital at Basel. During the years 1877 and 1878 he revaccinated twenty-eight pregnant women. Owing to circumstances beyond his control, only eight of the children of these women were available for future experiment. Four children were then vaccinated, whose mothers had not been vaccinated during the pregnancy, and in every case perfect pustules were produced. With this same lymph, whose efficacy had thus been proven, he vaccinated the eight children of the mothers who had been vaccinated during pregnancy. The results were as follows: The children of four women, whose revaccination during pregnancy had been perfectly successful, were found to be insusceptible of the vaccine lymph. The children of two of the women, whose revaccination during pregnancy had been only partially successful, were also found to be proof against vaccination. Of the two children whose mothers had been unsuccessfully revaccinated during pregnancy, one was vaccinated successfully, and the other failed.

These experiments of Dr. Burckhardt, although few in number, agree with the results obtained by Rickett, who inoculated about seven hundred ewes during the last few weeks of gestation. Their lambs were inoculated, when from five to six weeks old, with sheep-pox lymph, with no result, although at the same time thirty-six lambs, whose mothers had not been inoculated, were all successfully operated on and had true pustules.

ANTISEPTIC OBSTETRICS.

Professor Stadtfeldt,² of Copenhagen, calls the attention of the profession to the great value of antiseptics in the treatment of obstetric cases. Since 1870 he has employed this method of treatment, and with the most gratifying results. During the last five years, out of 5098 lying-in patients, only one in 116 has died of puerperal fever. This result is more favorable than that obtained in any other lying-in institution. He advises that the vagina be carefully

washed out before the delivery, and that the moment the presenting part of the child shows itself at the vulva a carbolic vapor spray be thrown on the exposed parts. This should be continued until any lacerations occurring during the delivery are united by sutures. The vagina should then be carefully washed out with carbolized water, as also the vulva and adjacent parts. In all cases in which the hand or instruments have been introduced into the vagina, or where a portion of the membranes have been left behind, a three per cent. carbolized intra-uterine injection should be used after the delivery. He has never seen the slightest evil result follow an intra-uterine injection, although he has employed them in hundreds of cases.

Dr. Schucking advises that immediately after the delivery the vagina be wiped out with a tampon of cotton which has been dipped in a solution of carbolic acid (five per cent.). A sound is then carried up to the fundus uteri, having previously been surrounded by a piece of gauze soaked in the same solution. The uterus and vagina are then thoroughly disinfected by means of an irrigator, which is connected with the sound. For permanent irrigation he uses a solution containing ten per cent. of sulphite of soda and five per cent. of glycerine. Every twelve hours the sound and gauze are removed and a fresh instrument is inserted, while at the same time the carbolized injection, followed by the sulphite of soda wash, is repeated.

LACERATIONS OF THE PERINEUM.

Dr. T. A. Reamy³ calls the attention of the profession to the necessity of immediately sewing up a perineum which has been torn during a delivery. The parts should be sponged with warm water, and if the flowing at all impedes the operation a sponge can easily be inserted into the upper part of the vagina. There is no necessity for an anæsthetic, as the pain amounts to nothing; nor is there any for trimming the parts. The sutures should be placed very closely together, at least four to the inch. By placing them so closely, there is not the necessity of drawing the edges so tightly together. All clots and blood must be removed from between the parts before they are brought into apposition. The urine should be drawn for two or three days. It is not at all necessary to confine the patient's legs together, nor to insist upon her lying in any one position; but she should not be allowed to separate them widely.

PORRO'S OPERATION.

Dr. R. J. Kinkead, in a recent paper read⁴ before the Dublin Obstetrical Society, gives an interesting and critical description of this operation as compared with Cæsarean section, laparo-elytrotomy, and craniotomy. Thus far thirty cases have been reported, with the result of fourteen mothers being saved and sixteen deaths, or a mortality of 53.3 per cent. The dangers which attend Cæsarean section are (1) peritonitis; (2) metritis; (3) hæmorrhage; (4) septicæmia; (5) shock; (6) intestinal obstruction, arising from a coil of the intestine being caught in the uterine wound. By Porro's method, the second, third, and sixth of these are abolished; the fourth is greatly reduced, and, with the proper use of antiseptic, should be entirely abolished. The danger from peritonitis is also greatly reduced. Several modifications

¹ *Deutsches Archiv für klinische Medizin*, xxiv.

² *Centralblatt für Gynäkologie*, 1880, vii.

³ *Obstetric Gazette*, January, 1880.

⁴ *Dublin Journal of Medical Science*, May, 1880.

of the details of the operation have been advised by various operators: but the main point consists in a combination of the Cæsarean section with amputation of the supra-vaginal portion of the uterus, at a level with the os internum.

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

THE sixth annual meeting of the American Neurological Association was held in New York city on the 16th, 17th, and 18th of June, in the hall of the New York Academy of Medicine. The president, Dr. F. T. Miles, of Baltimore, was in the chair, and the following were among the members present during the session: Dr. Jewell, of Chicago, Drs. Webber and Putnam, of Boston, Dr. J. J. Mason, of Newport, Dr. Van Bibber, of Baltimore, Dr. Roberts Bartholow, of Philadelphia, Dr. Alfred Carroll, of Staten Island, Drs. Shaw and Gray, of Brooklyn, and Drs. Hammond, Beard, Kinnicutt, Gilney, Cross, Spitzka, and E. C. Seguin, of New York. After the transaction of some preliminary business, the following nominations for membership were made: Dr. Isaac Ott, of Easton, Penn., by Dr. Putnam; and Drs. Graeme M. Hammond, of New York, Wharton Sinkler, of Philadelphia, and W. R. Burdsall, of New York, by Dr. Seguin.

The chair having appointed a committee for the nomination of officers, the first paper was read by Dr. William A. Hammond, of New York, on

MYXŒDEMA: WITH SPECIAL REFERENCE TO ITS CEREBRAL AND NERVOUS SYMPTOMS.

The first account of this remarkable disease, he said, was given by Sir William Gull in a paper which he read before the Clinical Society of London, October 24, 1878. In this he did not attempt any very complete description of the cases that had come under his observation, nor enter at any length into a consideration of the morbid anatomy and pathology of the disease; his main object apparently being to draw attention to a well-marked and probably not uncommon affection, which, up to that time, had not been differentiated. Subsequently Dr. Ord published in the *Medico-Chirurgical Transactions* a very thorough paper on the same subject, which made a full exposition of the symptoms and morbid anatomy of the disease, and left little to be desired; while in October, 1879, Dr. Dyce Duckworth reported cases of the disease, and Dr. Ord read another paper on the subject before the Clinical Society. In the discussion which ensued Dr. Sanders, of Edinburgh, mentioned the fact that several cases which he now recognized to be instances of myxœdema had come under his notice. Finally, Dr. George H. Savage had written a paper on myxœdema, and illustrated it with photographs of two of Dr. Ord's cases.

Dr. Hammond thought it was probable that the hospitals for the insane, both in this country and in Europe, contained many cases of the disease in question, and, now that attention had been directed to its marked characteristics, that we should hear from some of our own superintendents in regard to it. Myxœdema was a disease which, as Dr. Ord had shown, had for its patho-anatomical feature the deposit of a mucoid substance in various parts of the body, especially in

the skin, or a degeneration and proliferation of the connective tissue. Probably both these conditions co-existed in some tissues. As a consequence of this state, an appearance resembling that of anasarca was produced, with the exception that pitting was not caused by pressure. The tissue felt resilient, and not boggy, to the touch, like that into which water was infiltrated, as in ordinary œdema. The face had very much the appearance, so far as the swelling was concerned, of that which was met with in cases of the toxic effect of arsenic. There was a puffiness of the eyelids, the lips were prominent, the nostrils were swollen, and the cheeks over the malar bones were red from capillary congestion. The ends of the fingers were distinctly "chilled," as was so frequently the case where there was disease of the heart in which there was an impediment to the return of the blood to the right side of the organ. The temperature of the body in all cases was below the normal degree; and thus far all the instances of the affection reported had been in adult women, with possibly one exception, occurring in Dr. Savage's experience.

The cerebral and nervous symptoms, he continued, appeared to be very decided. The intellect was notably weakened, and replies to questions were given in a sluggish and inexact manner. The memory was imperfect, and the patient experienced a lack of confidence in herself both as regards mental and physical power. The special senses were more or less perverted, and there were sometimes hallucinations and delusions. In one case cited by Dr. Savage the patient was "distinctly maniacal, sleepless, incoherent, and violent at night." The most ordinary mental condition met with, however, was a hebetude or stupidity resembling the state generally known as acute dementia.

Dr. Hammond then proceeded to detail the first case of myxœdema ever reported in America, and it corresponded in every particular with the affection already described. The patient, a female, was married, forty-one years of age, and was first seen April 22, 1880. Her appearance was that of a person suffering from general œdema in consequence of heart or kidney disease, and her forehead, eyelids, cheeks, lips, neck, hands, feet, and, in fact, the entire surface of the body, were more or less swollen, while all the fingers were "chilled," though there was no incurvation of the nails. The general sensibility of the skin was found to be markedly diminished. At an early period of the disease she had suffered from pains in various regions of the head; but later these had disappeared, and there had been no similar disturbances of sensibility in other parts of the body. Varying sensations of numbness, however, were now present to a greater or less extent in the face, the end of the tongue, the arms, the fingers, and the legs. The muscular power of the patient appeared to be decidedly weaker than was normal, and there was marked difficulty of coördination both in the upper and lower extremities. The other special senses besides the touch, which had been shown to be decidedly lessened in acuteness, were all more or less deranged. Ophthalmoscopic examination revealed the existence of neuro-retinitis in both eyes; objects looked blurred, and, as a rule, were apparently surrounded by a halo, while occasionally the patient had momentary double vision. The hearing was dulled, and experiment seemed to show that the auditory nerve was affected. The sense

of taste was so notably impaired as to be almost entirely abolished, and the mucous membrane of the mouth and fauces had lost a great deal of its sensibility.

After speaking of her loss of intellectual power, the impairment of her memory, and the hallucinations to which she was subject, Dr. Hammond concluded his description of the case in these words: "When I add that her appetite was poor, that the bowels were constipated, that the urine contained a large excess of urates, without other abnormality, that the pulse was slow and feeble, and that the animal temperature in the axilla and under the tongue was never above 96° Fah., and often half a degree below this, I have given as full an account of the symptoms as is necessary for a thorough understanding of the case."

In regard to the connection of the phenomena mentioned with the morbid anatomical condition to which reference had been made, he said that two views had been expressed. Dr. Ord regarded the symptoms as being directly due to the fact that the peripheral terminations of the nerves were so surrounded and compressed by the mucoid tissue deposited about them that they were prevented from receiving impressions in their full force, and hence that the central organs of the nervous system acted less energetically than was normally the case. Dr. Hammond thought it perhaps probable that this view might be the correct one; but at the same time he said that the symptoms could not all be accounted for in that way. It certainly would not explain the occurrence of hallucinations and delusions, nor the periods of maniacal excitement which had been observed in some cases. He felt constrained, therefore, to agree with Dr. Savage in the opinion that the mental symptoms were the result of primary brain disease, due probably to the deposit of the mucoid tissue around the cells of the nervous centres. In his own case there were symptoms of intellectual derangement before any swelling of the body or limbs was observed, and before any sensory disturbances occurred. In some cases of Dr. Ord's, in which post-mortem examinations were made, the mucoid deposit was found in abundance throughout the brain, as well as in almost every other part of the body; so that there was no improbability in the suggestion that the morbid process might begin there. At the same time the padding to which the nerves were subjected would certainly interfere with their healthy function, and hence he thought it quite reasonable to hold the view that the phenomena of myxoedema were the result of both central and peripheral disturbances.

In answer to an inquiry by Dr. Jewell, Dr. Hammond stated that the distinctive symptoms of myxoedema in his case had existed for a little over a year, but that the loss of intellectual power had commenced at a much earlier period than these; and he therefore thought that the primary seat of the trouble was in the brain. He was able to form no estimate as to the cause of the disease. It seemed to be not an uncommon affection. Twelve or fourteen cases of it had already been reported, and in the debate concerning it in the Clinical Society of London several of the members thought they had seen cases which were undoubtedly of this nature, though their attention up to that time had not been called to the disease. Personally he had never recognized another case of it, but he thought it quite probable that in the course of his experience he had seen a number of sufferers from it

whose trouble he had referred to general anasarca. He thought the affection analogous to pseudo-hypertrophic spinal paralysis.

Dr. S. G. Webber, of Boston, then gave a microscopical demonstration of

SPECIMENS OF SWOLLEN CYLINDER AXES OF MYELITIS,

and in the course of his remarks alluded to some of his cases and their treatment, which gave rise to an interesting discussion.

Dr. Jewell said that of late he had met with very gratifying success in the treatment of acute myelitis. This he attributed mainly to two agencies: (1) the most thorough and complete rest for a longer or shorter period, according to circumstances, and (2) the use of strychnia in very large doses at a much earlier period than it had hitherto been prescribed. The moment that the temperature fell to the normal degree he began with the strychnia, and rapidly increased the dose until some of its physiological effects upon the system were noticeable. In one serious case he had given as much as one tenth of a grain three or four times a day; but in this instance no physiological effect was produced. Instead of aggravating the symptoms, as one would be likely to suppose from all the authorities, the remedy had a most happy effect upon the disease, and he had every reason to be satisfied with its effects.

Dr. Seguin thought that perhaps Dr. Jewell attached too much importance to the measures which he had adopted, since it was generally recognized that myelitis of the anterior horns sometimes got well spontaneously.

Dr. Hammond remarked that he had always been led to believe that patients with inflamed spinal cords were peculiarly susceptible to the action of strychnia, and that in them the physiological effects of this alkaloid could be produced by much smaller doses than if the individual were in good health. Perhaps, however, the remarkable results which Dr. Jewell had obtained were due to the fact that he used the strychnia in very large doses, and it was well known that the effect of many remedies was entirely different when given in large than when in small doses. In his next case of acute myelitis he certainly thought he should make trial of Dr. Jewell's method of treatment.

Dr. Bartholow, having learned from Dr. Jewell that iodide of potassium was given in connection with strychnia, said that he could not resist the conclusion that the latter's cases were really of syphilitic origin. In syphilitic myelitis he thought strychnia would act well in connection with the iodide, on account of its stimulating power. Like Dr. Hammond, he had always believed that strychnia could only aggravate ordinary acute myelitis, because it had the direct effect of dilating the blood-vessels of the cord, and would thus seem to add to the existing inflammation.

In reply Dr. Jewell said that he would not think of giving strychnia during the acute stage of myelitis, and that not a single one of the cases to which he referred had been the subject of syphilis.

Dr. Hammond asked Dr. Jewell when he considered the acute stage passed; to which the latter replied, when all febrile symptoms had subsided. At the same time he had resorted to the use of strychnia—and he laid great stress upon this point—at a very much earlier period than was sanctioned by any au-

thority with which he has acquainted. When Dr. Hammond expressed the belief that the improvement in these cases might have been due to the iodide of potassium, after all, Dr. Jewell stated that all the cases which he saw in consultation had been previously taking the iodide, but that not one of them showed any signs of improvement until the administration of strychnia was commenced.

Dr. Beard quoted arsenic and cantharides as remedies the effect of which was directly dissimilar when given in large and small quantities. Though both these agents were such powerful irritants in large doses, in minute doses the one was an excellent sedative to the stomach and the other to the prostate.

The next paper was by Dr. J. J. Mason, of Newport, R. I., on

THE DIAMETER OF THE NERVE-CELL NUCLEI IN THE SPINAL CORD.

From a prolonged series of observations on the spinal cords of the lower animals, some of which he detailed in the paper, he was able to enunciate the following general law, which he believed would be found to hold good in the case of all vertebrate animals:—

The diameters of the nuclei of the cells in the inferior horns in the two enlargements of the spinal cord are proportional to the muscular power of the corresponding extremities. The principal animals upon which he had made these observations were frogs, gopher turtles, terrapins, alligators, horned toads, and various forms of lizards. In the frog the nuclei of the cells of the lumbar enlargement were found to be larger than those of the cervical enlargement, and in the gopher turtle the reverse of this was true; while in the other animals the two sets of nuclei were of about equal size. When the relative muscular development of the extremities of the various animals was taken into consideration it would thus be seen that the law he had stated held strictly true in every instance; so that the nuclei really seemed to increase in size directly in proportion to the development of the muscular tract which they served to innervate. The paper was concluded with some remarks on the best method of preparing specimens so that the nuclei could be measured to advantage.

Dr. Spitzka was of the opinion that Dr. Mason ought to exclude the sensory cells before drawing the inferences which he had mentioned. He did not believe that a fixed relation could be established between the size of the nuclei and the muscular periphery, and considered that further tests would be necessary before such a view could be accepted. The paper was also discussed by Drs. Hammond, Jewell, and Putnam, and Dr. Mason made some concluding remarks.

(To be concluded.)

Recent Literature.

A Treatise on Oral Deformities as a Branch of Mechanical Surgery. By NORMAN W. KINGSLEY, M. D. S., D. D. S., etc., etc. With over three hundred and fifty Illustrations. New York: D. Appleton & Co. 1880.

The title *Oral Deformities* gives but an imperfect idea of the scope and contents of this book, which, though written by a dentist and for dentists, contains

matter that is especially valuable for the physician and surgeon.

The book is divided into five grand divisions, namely: (1.) Irregularities of the teeth, their physiological and pathological relations, and the modes of treatment with cases. (2.) Palatine defects, congenital and acquired, containing the history of the means of relief from the earliest records down to the present time. (3.) Maxillary fractures, a masterly treatment of the whole subject. (4.) The mechanism of speech, with especial reference to cleft-palate subjects, and covering the whole ground of articulate speech, profusely and excellently illustrated. (5.) *Æsthetics of dentistry*, having special reference to the manufacture and insertion of artificial teeth.

Dr. Kingsley has long been known to the members of his profession as very ingenious in the contrivance of methods for regulating the most desperate cases of irregular denture, and as the inventor of the only successful velum for the closure of congenital cleft palate. With pardonable egotism in his preface, he says, "I have endeavored to treat these topics with such comprehensiveness that it will not be necessary for any one to go over the same ground until the progress of science shall make these teachings obsolete;" yet in the treatment of the former of these subjects we notice several omissions, a failure to keep abreast of the "science" of the day in omitting many modern appliances, and an over-tenacious adherence to old and nearly "obsolete" methods. On the whole, however, principles are well stated, and it only remains for the ingenious practitioner to apply them to his own cases. Cleft-palate treatment, with its history and description of methods, leaves little to be desired. The reference to Suenson's obturator is frank and generous, while his reasons for preferring his own in the early treatment are so well stated as to demand acceptance. For the physician and surgeon the chapters on maxillary fractures are of interest and value, as is also the one on the mechanism of speech. Too much has been expected of the operation of staphyloraphy, and also of artificial vela for the correction of faulty articulation, and the chapter in which these subjects are treated, together with that on cleft palate, well explains the reasons for failure and the means of cure.

The fifth division, *The Æsthetics of Dentistry*, is especially valuable to the dentist, for whom it was written, and places the manufacture and insertion of artificial teeth on higher ground than is usually taken either by patient or by practitioner, but not impossible of access by one who is honest and in earnest.

The book bears evidence of careful investigation, earnest thought, and patient work, whilst the mechanical appliances described witness to a wonderful ingenuity in finding the means to an end; and no man in either profession who wishes to do the best thing for his patient can afford to neglect its teachings.

American Health Primers: Sea-Air and Sea-Bathing.

By JOHN H. PACKARD, M. D. Philadelphia: Presley Blakiston. 1880.

This little book, the eleventh in this series of *Health Primers*, has appeared very opportunely, and will be found a useful companion by those about to resort to the sea-side for the summer. The chapters on accidents in bathing, on sea-bathing for invalids, and on sanitary matters will all repay perusal by those classes of readers for whom the book is evidently intended.

Medical and Surgical Journal.

THURSDAY, JULY 1, 1880.

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THE MANUFACTURE OF FRAUDULENT DIPLOMAS CHECKED AT LAST.

THE issue of fraudulent diplomas by spurious medical colleges, in the city of Philadelphia, has been temporarily checked; we wish it could safely be said it had been permanently stopped. Before society can feel secure against such outrages the law must provide some more direct and stringent means of dealing with their perpetrators, or, better still, make the attempt too hazardous to be a temptation. As our Eastern centres become more densely populated, competition keener, the inducements to fraud greater, the republican neck must consent to bend a little and submit itself to the yoke of safeguards which have been found necessary in communities which have preceded them in the process of growing old. A new bill to regulate the practice of medicine in the State of New York has just passed the legislature of that State and received the governor's signature. This step Pennsylvania would doubtless do well to imitate. The compulsory presentation of diplomas and registration by those proposing to practice medicine, in connection with a vigorous enforcement of the existing law of 1870 against the sale of degrees, should suffice to protect the public, and the good name of Philadelphia as a medical centre, at home and abroad, from the dangers to which the former and the disgraces to which the latter have been subjected with more or less persistency during the last twenty-seven years. As mentioned in our issue of June 17th, the *Philadelphia Daily Record* deserves credit and recognition for its energy, acuteness, and courageous expenditure in bringing to justice the chief culprit, John Buchanan, M. D., proprietor of the Eclectic Medical College, alias James Murray, D. D., of the Livingstone University. In the *Daily Record* for June 10th, 11th, and 14th, is a full account of these and kindred institutions of learning, a biography of their owners, and a list of the purchasers of degrees conferred.

Diplomas were first manufactured in Philadelphia in 1853, in which year the American College of Medicine was chartered by the legislature. The name was subsequently "watered," and became the American College of Medicine in Pennsylvania and the Eclectic Medical College of Philadelphia, diplomas being issued and dividends declared promiscuously under either title for some years. Eventually this lucrative mass of protoplasm subdivided itself, the American College becoming "Dr." William Paine, and the Eclectic College "Dr." John Buchanan. In 1865, with the aid and sanction of the legislature, the

American College inflated itself to the Philadelphia University of Medicine and Surgery, of much renown. Both of these diploma factories escaped any serious consequences from a legislative investigation in 1872, the Eclectic College by a legal technicality, the more pretentious university by simple audacity. It was sold to a syndicate of four persons, and attained even greater prosperity and more extended usefulness under the supervision of the Rev. Mr. Miller, dean, and the Rev. Mr. Ingraham, president. This "university" has issued more than six hundred medical degrees since 1859; of these, two hundred and twenty, according to the record, are held by persons living in Pennsylvania, and sixty-six by inhabitants of New York. Germany possesses only ten of these valuable documents, which we hope are destined to become very rare, and to be found only in a few of the largest libraries.

From "Dr." John Buchanan, who in the mean time had not been idle, the reporter of the *Record* purchased a unique collection of diplomas, to wit: one diploma of M. D. emanating from the Eclectic Medical College; two diplomas of M. D. from the American University of Philadelphia; one diploma of M. D. from the Livingstone University of America; one diploma of M. D. from the National Eclectic Medical Association; one degree of D. D. from the Livingstone University; one degree of LL. D. from the American University; and one degree of D. C. L. from the Livingstone University. The Eclectic Medical College, as we have mentioned, and this alone, had a charter; the other institutions were in this, as in every other respect, the creations of the imagination and of the pen of the fertile and ubiquitous Buchanan. To the above list of spurious colleges should be added the Quaker City Business College and the Philadelphia Electropathic Institution.

The great diploma-king of all is now in jail, and the lesser dignitaries are either on their way to it or greatly discouraged. This branch of industry is probably destroyed for the present, and the operatives thrown out of employment. If the State can be induced to provide the law necessary to prevent its resuscitation it would seem to be well worth the while of the University of Pennsylvania alone to provide the energy, and, if needs be, the funds requisite to secure the enforcement of the law, for the injury accruing to that institution, and to the Jefferson Medical College as well, from these practices must have been very great.

MEDICAL NOTES.

— Benzoate of soda is greatly vaunted in Germany as a specific against parasitic diseases, amongst which are ranked pneumouia and pulmonary tuberculosis. Rokitsansky makes his patients inhale, by means of a spray apparatus, a gramme of the drug for each kilogramme bodily weight. Schwitzler, also partisan of the anti-parasitic treatment of phthisis, gives preference to inhalations and subcutaneous injections of phenic acid. Klebs, of Prague, signals the efficacy of ben-

zoate of soda in all febrile diseases having an infectious character. The fever does not yield as quickly as with quinine or salicylate of soda, but it disappears in a more certain and permanent manner. Letzerich recommends it in the treatment of diphtheria. Of twenty-seven patients treated during an epidemic he affirms to have lost but one, and that a child. In these cases the benzoate of soda is employed internally, the dose being from five to twenty grammes, according to age, in about six ounces of vehicle, and externally in powder applied to the affected parts.

—The *Medical Press and Circular* says the dispensary system on a very small scale is about to be introduced into the French departments. The Minister of the Interior has ordered medical chests containing the most necessary medicines in case of urgency to be supplied to those districts that are not provided with chemists; each chest is divided into two compartments, and the price is fixed at two hundred francs; one containing drugs, to be used only by the doctor; the other is supplied with bandages, cotton wadding, etc., and is placed at the disposition of the public.

—The Vienna correspondent of the *St. Louis Courier of Medicine*, etc., writes: "Billroth is not an enthusiast for the spray. He thinks it more trouble than it is worth, and says he does not expect to use it next term. He considers the Lister dressings sufficient. He says you can soak bacteria in a two per cent. solution of carbolic acid for forty-eight hours, and not destroy them. I saw him, lately, open a knee-joint without it. During the early part of the winter, good results were claimed for it, but during the last two months everything has been unfavorable.

"I lately saw at the Vienna Medical Society a heart without a pericardium. Simply a trace was found attached to the posterior surface of the great vessels. Dumreicher stated that only two such cases had been noticed here, among seventy thousand post-mortems."

—The Louisville *Medical News* copies the following from the *Union Médicale*: A physician in high position, who had usually some trouble in obtaining payment from one of his patients, who was a financier, received from him one day an agreeable surprise in the form of a charming letter, in which he apologized for having made him wait so long, and informed him that instead of recouping his careful attention by vile dross he presented him with a number of shares in a new society which he had founded. The doctor accepted the shares, signing a receipt; but as these never brought him any dividends, he deposited them in his strong-box, and forgot all about them. Quite recently they were suddenly called to his mind on his receiving a summons to attend at a court of justice, there to hear his condemnation to pay ten thousand francs for unpaid deposits upon the shares, the society having fallen into bankruptcy. In another instance a medical practitioner received from a patient in payment of his services a cask of white Barsac wine. After a while the donor failed, fell ill, and died. On examination of his books there was found

an entry of the Barsac wine, valued at three hundred francs. This the doctor was obliged to pay, and upon claiming payment for his own medical services he was informed that a year had elapsed since they were rendered, and payment was therefore not recoverable.

NEW YORK.

—The first case of yellow fever in the harbor this season occurred on board the Pacific mail steamer, Colon, which left Aspinwall on the 6th of June; and it was the second case of the disease which developed during the voyage. The first patient was a steerage passenger, and he showed symptoms of yellow fever almost immediately after the vessel sailed. He was returning to the East from California, and, so far as the history of the case could be gathered, had contracted the fever at Aspinwall. He died on the 12th, and was buried at sea. On the 11th a cabin passenger was taken with the disease, although the ship's surgeon believed it to be a case of isthmus fever. This patient had been the agent of a gold mine in the mountains, and came down to Aspinwall only a few days before sailing. There was no communication between the cabin and steerage passengers, and it was therefore supposed that he also brought his fever with him from Aspinwall. When the Colon arrived at the New York quarantine the case was transferred to the fever-ship Illinois, and watched with much interest; and both Dr. Smith, the new health officer, and his assistant, Dr. Macarthy, became convinced that it was one of genuine yellow fever. On the afternoon of June 16th black vomit set in, and that evening the patient died. No other case of disease of any kind was found among the passengers of the Colon, and they were soon permitted to land. Dr. Smith, in speaking of the case, said that, although he was not very fully acquainted with its history, he had no doubt it was one of yellow fever; and that it was somewhat of a surprise to the authorities to get a yellow-fever case at this time from the port of Aspinwall. He was very anxious, he said, to have a cable giving his department telegraphic communication with the islands and with the hospital-ship, which would be of great advantage to them, and would also be used very generally by merchants and others. At present a vessel in the lower quarantine ground can communicate with the city only by means of the health officer's tug.

—The record of contagious diseases reported to the health department for the month of June is much smaller than for the corresponding weeks last year, and is, indeed, below the average for several years past. But, while the number of contagious diseases reported is less than in June, 1879, the death-rate shows a very considerable increase, which is found to be almost entirely among children under five years of age. This is somewhat remarkable, as there has been but little continued hot weather since the last week in May, and the city is supposed to be in a better sanitary condition than usual. The following report was lately given by Dr. E. H. Jones, the assist-

ant sanitary aid: "The sanitary condition of the city at the present time is better than it has been for many years. The streets are kept in a very cleanly condition, and the working people and persons living in tenements are much more careful of the condition of their surroundings than they were formerly. The thorough examination made by the inspectors of the health department last year has resulted in great good, and with our present force of inspectors and the sanitary police we can keep watch over the tenement-house districts, and prevent any flagrant violation of the sanitary laws. We are now transferring the reports by the inspectors of their work last year into about thirty large ledgers, and these will be kept as the sanitary record of the houses, with the number of contagious diseases reported in each." Last week was begun the distribution, by the health authorities, of circulars directing parents about the proper care of their children during the summer months, and the proper course to be pursued upon the occurrence of any contagious disease in the house; and also giving directions for the prevention and treatment of sun-stroke.

— The Sisters of St. Mary, of the Protestant Episcopal Church, who for several years have occupied a private building in West Thirty-Fourth Street as their free hospital for children, are now engaged in erecting a new hospital on the site of the old and on the adjoining lot, which they have purchased. The building, which is expected to be ready for occupancy about the last of October, will be fifty feet wide and eighty feet in depth, with an extension of twenty-five feet. The front is to be of Philadelphia pressed brick, with trimmings of Ohio freestone, and it will be four stories in height, with a basement. In the basement of the building will be the reception-ward and out-door dispensary, dining-rooms, kitchen, laundry, etc. The first floor will be used for a reception-room, dining-room, and office, and there will also be one ward for about twenty patients on this floor. On the second floor there will be two wards for twenty patients each, ward dining-rooms, bath-rooms, etc.; on the third, the chapel, sisters' rooms, sewing and nurses' rooms; and on the fourth the children's play-room, servants' rooms, operating and surgical rooms, and an isolation-ward for infectious diseases, in case any should occur in the institution.

— At a recent meeting of the new State Board of Health, held in New York, a resolution was adopted to the effect that the county officers in the several districts of the State should be requested to call attention to the provisions of the law passed by the legislature in May, establishing the board and defining its duties, with special reference to the sections authorizing the board to take cognizance of epidemic and preventable diseases, the investigation of sources of mortality, the sanitary and other effects of localities, employments, and other conditions of life upon the public health, the collection and preservation of information relating to deaths, diseases, and health, the registry of births, marriages, and deaths, the registry of prevalent diseases, and the security of life and

health, together with the results of preventive measures in places requiring attention to the preservation of the health and lives of the people. The following resolution was also passed: "Resolved, That in the best interests of the people at large the State has made it the duty of the State Board of Health, now for the first time authorized by law, to call attention to whatever may secure sanitary improvement by better systems and methods of drainage, sewerage and ventilation, vaccination, the supply of pure water, the prevention of the adulteration of food and of the pollution of wells, and the prevention of filth diseases and other destroyers of health and life, to the end that discussions, information, and the best sanitary measures may be had to avert danger. When it is understood that scarlet fever may be communicated by the breath in a second of time and from infected clothing not worn for a year, and that diphtheria often results from contact with impurities in earth, air, and water, parents and school-teachers will see the necessity of excluding children afflicted with or exposed to either disease from entering school-rooms and all places where others would be endangered. All good citizens will also realize the danger from exposure to decayed vegetables, fruits, and other sources of sickness, especially when surface or subsoil wells communicate with water polluted by proximity to drains, cess-pools, and other filth. The State Board looks first of all to an enlightened and healthful public opinion to aid it in the important and responsible duties imposed upon it by the State."

— It is somewhat to be feared that the number of lunatics and idiots may be found to be disproportionately large as compared with the general population, according to the census just completed, since the enumerators received five cents for the name of every such collected, while those of ordinary individuals were worth only two cents. One insane man, who had escaped several times from asylums, said to an enumerator in New York, "Put me down two thousand times, if you like, and you will get five cents every time."

Miscellany.

AS TO FEES: A POSTSCRIPT.

MR. EDITOR, — In regard to my note of last week, one or two points should be explained.

It was intended rather as a plea, imperfect as it was, for sustaining the integrity of the fee table, and to express the idea that its rates were the *lowest* that should ever be charged.

The question before the court was, not what were the charges in the fee table, but what were the customary charges by physicians in good standing to patients who were able to pay, that is to say, those who were neither very rich nor very poor; and upon this point the court ruled "that the fee table was not authority in the premises, but that *established custom* was." The weight of the evidence, in the opinion of the jury, went to show that the *three-dollar* fee was that most established by "*custom*."

The questions tried were not whether a five-dollar

fee for a visit was too much, or whether a three-dollar fee was too little; but simply which of these fees was most commonly charged and collected.

There is no profession or business requiring an equal amount of ability, acquirement, and devotion, which is so poorly requited in money, as that of the practice of medicine; and the number of those whom we know who have been able, after supporting themselves in tolerable comfort, to leave for those who are dependent on them even a modest competency can be almost counted on the fingers of one's hand.

This ought not to be, and it seems but reasonable and just that the profession itself should do something to advance its own interests in this regard. There appears to be no reason, therefore, why the rates of the fee table should not be advanced; nor why the larger fee should not be *made the custom*, and thus have the advantage of being sustained by the courts of law.

It costs as much to live in Boston as in London. The services of medical men are worth as much here as there. Why should we not then *expect*, I will not say *exact*, from all those who are able to pay it, the *guinea-a-visit*, or its equivalent in our money, the HALF-EAGLE?

HENRY G. CLARK.

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

THE forty-eighth annual meeting of the British Medical Association, which is to be held in August, at Cambridge, bids fair to be one of the most successful on record. The university cities lend themselves with particular ease to meetings of this kind; their whole atmosphere is congenial to learned discussions; each is, in its way, a metropolis of culture; they abound in fine halls, well fitted for sectional meetings; and Cambridge, especially, is eminently qualified to receive a large medical association, inasmuch as, during the last few years, it has been raising up in its midst—thanks to the exertions of Michael Foster, Humphrey, George Paget, and others—a medical school, which is year by year taking a more important position amongst the schools of England, and which bids fair, before long, to be the finest school for physiology in this country.

The general programme of the meeting has been published, and also the detailed programmes of some of the sections. The president will be Dr. Humphrey, the professor of anatomy in the University of Cambridge. The Address in Medicine will be delivered by Dr. Bradbury, of Cambridge; that in Surgery by Mr. Timothy Holmes; and that in Physiology—as it deserves to be in Cambridge—by Prof. Michael Foster, to whom the university owes so much of the rising importance of its medical department.

The special subjects to be discussed in the section of medicine are: (1) Hysterical Anæsthesia, the debate upon which is to be opened by Dr. Bristowe; (2) Asthma, the discussion on which will be opened by Dr. Andrew Clark. In the department of surgery there is to be a discussion on The Treatment of Wounds, to be opened by Professor Lister; and another on Stricture of the Urethra, in which Sir Henry Thompson will take a leading part.

The section of pathology will have the advantage of being presided over by one who is not only a pathologist of the highest order, but also an accom-

plished public speaker,—I mean Sir James Paget,—who will be seconded by Drs. Wilks and Dickinson as vice-presidents. Two special discussions are proposed, the first on The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition, which is to be opened by Mr. Jonathan Hutchinson. The second is to be on Micro-Organisms, their Relation to Diseases, to be opened by Professor Lister.

In obstetric medicine a discussion is to be opened by Dr. Atthill on Uterine Hæmostatics, and one on The Removal of Uterine Tumors by Abdominal Section, by Mr. Spencer Wells.

In the department of psychological medicine there is to be a discussion on Alcohol as a Cause of Insanity, and a second on The Curability of Insanity.

In public medicine it is also proposed to hold two discussions: one on The General Working of the Public Health Administration in Great Britain and Ireland; the other on Diseases Communicable to Man from Diseased Animals when used as Food.

In the physiological section, which will be presided over by Professor Rutherford, Professor Gamgee will open a debate on the question, Is Urea Formed in the Liver? whilst a second debate on Sleep and Hypnotism is to be opened by Professor Preyer, of Jena.

There remains only to mention the ophthalmological section. Of this no programme has hitherto been issued.

From this enumeration it will be seen that very serious work is to be done at Cambridge, and it will, I think, be interesting to look a little more closely into the subjects which have been chosen for the great discussions in the various sections, and it will be thereby possible to see in what directions medical thought is tending in England. I think that we may couple together the debate on hysterical anæsthesia in the section of medicine and that on hypnotism in the section of psychological medicine.

Until within a very recent period hysterical anæsthesia was looked upon with the utmost skepticism by very eminent members of the profession, and even now it is the fashion to pooh-pooh symptoms of this class.

I am certainly within the mark when I say that Charcot has very considerably lost caste in this country since he began to make his investigations into the phenomena of hysteria. Not long since I heard one of the most acute physicians in London say, referring to Charcot, "He is a man who has done a great deal of good work on the spinal cord, and a great deal of very bad work in hysteria." It is curious, and not a little interesting, to find this question brought forward for discussion at the same meeting of the association as the subject of hypnotism. This has been another of the *bétes noirs* of the medical profession in England. It is a subject that up to within quite recent times men have talked about with bated breath,—fearful of the consequences which might ensue from a confession that they thought there might be something in it that was not wholly nonsensical. They have remembered the fate of Dr. Elliotson, who, for his enthusiasm in following up this and kindred subjects,—an enthusiasm that may, perhaps, have been sometimes led astray,—was practically ruined, and his name handed down to posterity as of one who had departed from the paths of medical virtue, and who deserved to be branded as either a charlatan or a fool. In vain did Mr. Braid publish his researches on the subject; except in a

very narrow circle they passed unheeded. Men have been content to remain in ignorance of a subject of the deepest physiological interest, and, as it will probably prove, of very great practical importance. To Charcot it is partly due that the profession is beginning to wake up in the matter. He has been supplementing his observations on hysteria by a series of researches into the phenomena of hypnotism. The French have not that righteous horror of the unknown which exists in the minds of a certain section of Englishmen. It would be far less easy in France to damn a physician for investigating a series of natural phenomena than it is in England. Charcot, in this question, as in those he has previously studied, has quietly gone on with his investigations, not exactly regardless of public opinion, but without the least expectation of exciting public opinion against himself. In England, to have done so would have been a perilous experiment; but the Cambridge physiologists have taken the bull by the horns, and have arranged to hold a debate on the previously forbidden subject. It is true they approach the question from the comparatively safe side of physiology; and it will yet be necessary to find a man sufficiently bold to approach it from the medical side, and to study the effects of artificial hypnotism and its twin brother, the so-called mesmerism, on disease.

There are three other subjects which may be placed together as indicative of the direction which is being taken by medical thought, and which were discussed at this meeting. I refer to *The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition; Asthma; and The Relation of Micro-Organisms to Disease*. These may not appear at first sight to have much in common, but on looking a little closer they will be found to have this common feature: each of them is essentially an attempt to get a step nearer the ultimate causation of disease, to leave the details and minute subdivisions of morbid states, and to get a glimpse at the great trunk from which these subdivisions are offshoots. Very great attention is being paid at the present time by English pathologists to the influence of the nervous system on nutrition. In this department of research, as in those above mentioned, it cannot be denied that we owe the first impulse to France. It is the French authors, amongst whom Ducheune de Boulogne and Charcot stand preëminent, who first gave accurate accounts of the pathology of muscular atrophy, and of acute decubitus; and it is to Charcot that we owe our knowledge of the connection between diseases of the spinal cord and bone disease. But many English workers have been following up the vein thus opened out; and some highly interesting facts are being gradually collected in various directions, more particularly in connection with skin diseases. There are, however, a few very able pathologists who are aiming at even higher things than the tracing of simple skin lesions to nervous influence. Investigations are being carried on to prove that diseases, such as acute and chronic rheumatism, in many instances have their primary seat in the nervous system, and that the local changes are only the secondary manifestations of the disease, resulting from alteration in the nervous influence over the nutrition of the parts affected. I am unable to say whether any of these investigations are in a sufficiently forward state for presentation at the forthcoming meeting; but I mention this as an indication of the active manner in which

this somewhat abstruse topic is being at present studied.

The subject of micro-organisms and their influence over disease is one of equal difficulty and not far behind the former in the breadth of its bearing on medicine. During the last few years investigations have tended to prove a connection between various blood diseases and organisms of the lowest kind, the latest contribution to the subject being the report on the pathology of pyæmia, drawn up last year for the Pathological Society by the committee that had been appointed two or three years previously. The most important point which was brought out in that report was the constant presence of bacteria in various parts of the body in patients dying of pyæmia. What the nature of this connection may be was not shown; but, taken in conjunction with the researches of Sanderson and Klein on some of the specific infectious diseases of the lower animals, the presence of these organisms in pyæmia is highly suggestive. Much good work is being done on this subject in Germany; but I have not heard whether any of the German workers are expected to be present at the discussion. The name of Professor Lister, however, is a guaranty that we shall have the very latest information bearing on the question.

It may perhaps surprise some of your readers that I should class asthma with the above extensive and far-reaching subjects. I do so, however, because I believe that the debate will not be confined to a discussion of the mere local phenomena of its condition, but that it will include a consideration of the relationship between asthma and some ill-defined state of the constitution, of which the asthma is only a local expression; in other words, that the whole question of diathesis will come up in connection with this debate. Here, again, we have to acknowledge our indebtedness to the French. There is no doubt that the tendency in France is to refer local manifestations of disease to constitutional causes; and that the tendency in England has been equally strong to confine one's attention to local symptoms, without looking deeper for an underlying remote cause. There is abundant evidence to show that we are beginning to wake up in this respect in England. It has latterly become much more general among specialists in skin diseases to seek for constitutional causes in explanation of morbid states of the skin. Mr. Jonathan Hutchinson, who has long taught that certain skin affections had affinities of so close a nature as to form a group worthy of the name of a diathesis, is about to extend his teaching in this respect by devoting four lectures in the course he will shortly deliver at the Royal College of Surgeons to the diathetic aspects of gout and rheumatism, including their less evident manifestations. The diathetic relations of asthma have not been much studied in this country, but in France they have been minutely investigated; and I think that in the forthcoming debate they will probably be brought into fuller notice than has been hitherto the case in this country.

The other discussions, though many of them are on subjects of great interest, do not call for much notice. We may expect to have a further advance in the statistics of surgical practice on antiseptic principles, in the discussion on the treatment of wounds; and, doubtless, Mr. Spencer Wells will advance our knowledge of the surgical treatment of uterine tumors by his opening speech in the debate on that subject.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 5, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	501	193	16.77	15.57	6.59	2.79	1.80
Philadelphia.....	901,380	355	121	7.69	5.63	5.63	1.41	3.10
Brooklyn.....	564,400	189	76	24.34	13.23	3.17	13.75	2.12
Chicago.....	—	168	93	32.14	15.48	6.55	14.88	5.36
St. Louis.....	—	101	43	24.75	14.85	14.85	.99	2.97
Baltimore.....	393,796	197	110	32.49	5.58	25.38	2.03	1.52
Boston.....	365,000	120	35	15.00	15.00	4.17	7.50	.83
Cincinnati.....	280,000	133	79	30.08	9.02	21.05	—	2.25
New Orleans.....	210,000	150	77	26.00	5.33	10.00	2.67	1.33
District of Columbia.....	170,000	96	63	23.96	8.33	17.71	2.09	—
Buffalo.....	—	—	—	—	—	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	51	23	31.37	—	9.80	1.96	7.84
Milwaukee.....	127,000	36	22	22.22	5.56	2.78	11.11	2.78
Providence.....	102,000	39	15	33.33	17.95	5.13	7.69	10.26
New Haven.....	60,000	15	6	13.33	6.67	—	—	—
Charleston.....	57,000	35	17	20.00	5.71	11.43	—	—
Nashville.....	37,000	23	10	39.13	8.69	8.69	—	—
Lowell.....	54,000	18	10	5.56	5.56	—	5.56	—
Worcester.....	53,000	16	6	18.75	12.50	—	6.25	6.25
Cambridge.....	50,400	14	5	—	14.29	—	—	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	11	5	18.18	—	—	—	—
Lynn.....	34,000	14	7	14.29	7.14	—	14.29	—
Springfield.....	31,800	11	4	27.27	—	—	9.09	—
New Bedford.....	27,200	18	7	27.78	—	—	11.11	16.67
Salem.....	26,500	11	7	27.27	9.09	—	18.18	—
Somerville.....	23,500	5	2	20.00	40.00	—	—	—
Chelsea.....	21,000	3	1	33.33	—	—	33.33	—
Taunton.....	20,200	2	—	50.00	—	—	50.00	—
Holyoke.....	18,400	12	3	20.00	20.00	10.00	—	—
Gloucester.....	17,300	3	1	—	—	—	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	2	—	—	—	—	—	—
Newburyport.....	13,500	4	2	25.00	—	—	—	25.00
Fitchburg.....	12,600	2	—	—	50.00	—	—	—
Seventeen Massachusetts towns.....	135,210	51	6	11.76	17.65	3.92	3.92	—

Deaths reported, 2404; 1049 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fever) 507, consumption 313, lung diseases 256, diarrhoeal diseases 198, diphtheria and croup 111, scarlet fever 59, measles 37, typhoid fever 29, malarial fevers 25, whooping-cough 17, cerebro-spinal meningitis 15, erysipelas 15, small-pox one. From *measles*, New York eight, New Orleans seven, Brooklyn and Cincinnati five, Philadelphia and Pittsburgh three, Lawrence two, Chicago, St. Louis, Springfield, and Salem one. From *typhoid fever*, Philadelphia and Providence four, Baltimore and Charleston three, Boston, Cincinnati, Milwaukee, and New Haven two, Chicago, St. Louis, New Orleans, Pittsburgh, Nashville, Worcester, and Holyoke one. From *malarial fevers*, New York and New Orleans eight, Brooklyn four, Baltimore and District of Columbia two, St. Louis one. From *whooping-cough*, Nashville five, New York three, St. Louis, New Orleans, and Pittsburgh two, Baltimore, Boston, and District of Columbia one. From *cerebro-spinal meningitis*, New York five, Philadelphia four, Chicago three, St. Louis, District of Columbia, and Somerville one. From *erysipelas*, New York four, Chicago three, Waltham two, Philadelphia, Brooklyn, Baltimore, Cincinnati, Nashville, and Springfield one. From *small-pox*, Chicago one. In addition, Fall River reports deaths from consumption two, lung diseases one, cerebro-spinal meningitis one, typhoid fever one, — total deaths not given.

One hundred and one cases, 51 of diphtheria, 28 of scarlet fever, three of whooping-cough, and three of typhoid fever, were reported in Brooklyn; diphtheria 16, scarlet fever three, in Milwaukee; scarlet fever 16, diphtheria eight, measles six, typhoid fever six, in Providence. New York reports eight deaths from direct effect of solar heat.

Total deaths about the average; deaths under five diminishing somewhat. Diarrhoeal diseases still producing a large

proportion of deaths. In 35 cities and towns of Massachusetts, with an estimated population of 1,004,760 (population of the State about 1,690,000), the total death-rate for the week was 16.30 against 19.16 and 20.03 for the previous two weeks.

For the week ending May 15th, in 150 German cities and towns, with an estimated population of 7,706,855, the death-rate was 28.3. Deaths reported, 5673; 2069 under five: pulmonary consumption 597, acute diseases of the respiratory organs 428, diphtheria and croup 148, measles and *roteln* 82, scarlet fever 82, whooping-cough 60, typhoid fever 55, puerperal fever 12, typhus fever (Königsberg, Danzig two, Elbing, Thorn, Posen, Beuthen two, Leipzig, Braunschweig three) 12, small-pox (Beuthen 4, Görlitz, Elberfeld, Berlin) seven. The death-rates ranged from 12.4 in Potsdam to 38.7 in Strassburg; Königsberg 30.4; Breslau 28.3; Munich 38.4; Dresden 30.9; Berlin 26.6; Leipzig 31.4; Hamburg 23.3; Hanover 21; Bremen 22.4; Cologne 37.8; Frankfurt 22.8. For the same week, Vienna 33.7; Paris 31.6, with a large number of deaths from small-pox.

For the week ending May 22d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.5. Deaths reported, 2949: acute diseases of the respiratory organs 241, whooping-cough 128, scarlet fever 96, measles 69, fever 44, diarrhoea 41, diphtheria 11, small-pox (all but one in London) 11. The death-rates ranged from 14 in Portsmouth to 30 in Salford and Liverpool; London 18.5; Bristol 19; Birmingham 20; Manchester 27. In Edinburgh 22, Glasgow 23, Dublin 34.

In the 20 chief towns in Switzerland for the week ending May 15th, population 445,790, there were 35 deaths from acute diseases of the respiratory organs, diphtheria and croup 15, diarrhoeal diseases 14, scarlet fever seven, measles two, typhoid fever two, small-pox one. Death-rate of Geneva 21.4; of Zurich 31.2; Basle 26.5; Berne 29.5.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.	
May 30	30.092	55	62	54	63	80	97	80	E	SE	SE	3	12	6	O	O	R	7.57	.06	
" 31	29.853	69	82	60	95	51	64	70	S	NW	W	15	19	9	R	F	C	8.40	.27	
June 1	29.969	72	88	60	75	47	50	57	W	W	N	8	9	5	C	F	O	—	—	
" 2	30.094	55	62	48	92	70	69	77	N	E	NE	6	6	7	R	O	O	9.05	.24	
" 3	30.182	57	69	50	55	61	81	65	N	E	SE	9	6	6	C	F	O	—	—	
" 4	30.283	56	66	53	71	63	74	69	Calm.	SE	SE	0	16	7	C	F	O	—	—	
" 5	30.255	59	70	50	76	72	70	72	SE	E	SW	1	5	12	H	O	F	0.30	—	
Week.	30.104	60	71	53															0.57	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 12, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	479	211	23.18	12.32	12.32	3.34	1.90
Philadelphia.....	901,380	285	106	11.58	—	2.48	3.86	2.11
Brooklyn.....	564,400	197	81	25.89	10.66	12.18	8.63	1.52
Chicago.....	—	182	96	27.47	6.04	8.80	10.99	6.04
St. Louis.....	—	161	104	32.30	22.98	3.11	.62	1.24
Baltimore.....	393,796	211	134	40.28	33.18	2.84	2.42	2.42
Boston.....	365,000	139	40	17.99	2.88	3.59	10.79	—
Cincinnati.....	280,000	131	84	36.64	27.48	8.40	—	.76
New Orleans.....	210,000	166	85	35.54	16.87	3.61	3.01	1.20
District of Columbia.....	170,000	105	50	30.48	22.86	8.57	.95	—
Buffalo.....	—	28	11	21.43	—	10.71	7.14	7.14
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	61	—	26.23	4.92	9.83	—	8.20
Milwaukee.....	127,000	50	26	20.00	4.00	6.00	8.00	6.00
Providence.....	102,000	30	6	6.67	—	16.67	—	6.67
New Haven.....	60,000	16	8	37.50	6.25	6.25	12.50	6.25
Charleston.....	57,000	38	22	7.90	2.63	—	—	—
Nashville.....	37,000	20	10	60.00	40.00	5.00	—	—
Lowell.....	54,000	28	11	11.71	—	11.71	—	—
Worcester.....	53,000	18	8	16.67	—	11.11	5.55	—
Cambridge.....	50,400	22	5	18.18	4.55	18.18	9.09	—
Fall River.....	49,000	14	—	21.43	—	7.14	7.14	—
Lawrence.....	38,600	16	5	12.50	—	18.75	6.25	—
Lynn.....	34,000	6	4	16.67	—	33.33	16.67	—
Springfield.....	31,800	7	1	42.86	—	—	42.86	—
New Bedford.....	27,200	9	2	33.33	—	—	—	22.22
Salem.....	26,500	13	5	15.38	—	7.69	7.69	—
Somerville.....	23,500	3	1	33.33	—	—	—	—
Chelsea.....	21,000	7	1	—	—	42.86	—	—
Taunton.....	20,200	5	—	—	—	—	—	—
Holyoke.....	18,400	9	2	33.33	—	—	—	—
Gloucester.....	17,300	6	1	—	—	16.67	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	3	2	—	—	16.67	—	—
Newburyport.....	13,500	5	2	40.00	—	40.00	—	20.00
Fitchburg.....	12,600	3	0	—	—	33.33	—	—
Eighteen Massachusetts towns.....	145,410	30	9	20.00	3.33	10.00	10.00	6.67

Deaths reported 2503; 1133 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers), 637, diarrhoeal diseases 307, consumption 303, lung diseases 194, diphtheria and croup 112, scarlet fever 57, whooping-cough 37, typhoid fever 34, malarial fevers 29, measles 28, erysipelas 15, cerebro-spinal meningitis 11, small-pox four, typhus fever three. From whooping-cough, St. Louis six, New York and New Orleans five, Nashville four, Pittsburgh and Lowell three, Chicago, Baltimore, and District of Columbia two, Philadelphia,

Brooklyn, Boston, Cincinnati, and Charleston one. From typhoid fever, Philadelphia nine, New York, Chicago, and District of Columbia three, Boston, Cincinnati, and New Orleans two, Brooklyn, St. Louis, Baltimore, Pittsburgh, New Haven, Charleston, Lawrence, Salem, Somerville, and Holyoke one. From malarial fevers, New Orleans 11, New York five, Brooklyn and St. Louis three, District of Columbia two, Baltimore, Boston, Buffalo, Cambridge, and Fall River one. From measles, Cincinnati eight, New Orleans five, New York, Brooklyn, and Pittsburgh three, Chicago two, Philadelphia, St. Louis, Milwau-

kee; and Holyoke one. From *erysipelas*, New York six, Brooklyn and Boston two, St. Louis, Pittsburgh, New Haven, Fall River, and Newburyport one. From *cerebro-spinal meningitis*, New York four, Philadelphia and Worcester two, New Orleans, Buffalo, and New Bedford one. From *small-pox*, Philadelphia three, Holyoke one. From *typhus fever*, New York, Chicago, and Baltimore one.

Thirty-eight cases of diphtheria, 37 of measles, 30 of scarlet fever, one of whooping-cough, and one of typhoid fever were reported in Brooklyn; 24 of small-pox in Chicago; diphtheria 26, scarlet fever 14, in Boston; diphtheria 14, scarlet fever two, in Milwaukee; scarlet fever 15, diphtheria five, measles three, typhoid fever three, *erysipelas* one, in Providence; diphtheria four, in Cambridge; scarlet fever seven, diphtheria five, in New Bedford.

In 36 cities and towns of Massachusetts, with an estimated population of 1,016,700, the total death-rate for the week was 17.64 against 16.30 and 19.16 for the previous two weeks.

For the week ending May 22d, in 148 German cities and towns, with an estimated population of 7,632,943, the death-rate was 28.1 against 28.3 and 27.9 for the previous two weeks. Deaths reported 5683; 1966 under five; pulmonary consumption 610; acute diseases of the respiratory organs 443, diphtheria and croup 144, scarlet fever 82, measles and *röthen* 76, whooping-cough 61, typhoid fever 58, puerperal fever 15, ty-

phus fever (Königsberg, Danzig three, Thorn three, Tilsit, Beuthen, Magdeburg, Hamburg, Braunschweig two) 14, small-pox (Königsberg, Königshütte three, Beuthen three, Dresden, Frankfurt) nine. The death-rates ranged from 14.6 in Carlsruhe to 42.7 in Danzig and Munich; Königsberg 35.5; Breslau 29.4; Dresden 27.7; Berlin 27.8; Leipzig 20.3; Hamburg 26.2; Bremen 22.4; Cologne 27.2; Frankfurt 17.9. For the same week Vienna 29.5; Paris 30.5.

For the week ending May 29th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.1. Deaths reported 2887; acute diseases of the respiratory organs 208, whooping-cough 132, scarlet fever 131, measles 90, diarrhoea 43, fever 38, diphtheria 17, small-pox (all in London) 10. The death-rates ranged from 16 in Wolverhampton to 29 in Salford; London 19; Bristol 22; Birmingham 19; Liverpool 23. In Edinburgh 25, Glasgow 23, Dublin 38.

In the 20 chief towns in Switzerland, population 445,790, there were 36 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 19, scarlet fever 14, diphtheria and croup four, typhoid fever four, whooping-cough one, small-pox one. Death-rate of Geneva 28.8; of Zurich 28.5; Basle 28.6; Berne 29.5.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
June 6	30.006	61	66	56	88	89	94	90	S	S	E	4	8	4	O	R	F	—	.03
" 7	29.947	59	65	55	94	89	100	94	E	NE	E	3	8	10	O	G	G	—	.02
" 8	30.204	51	56	49	93	100	93	95	NE	NE	NE	12	16	9	R	R	O	—	.15
" 9	30.229	54	63	49	93	81	81	85	NE	E	NE	6	13	4	O	F	C	—	—
" 10	30.147	63	73	49	82	64	78	85	Calm.	SE	S	0	6	8	F	F	F	—	—
" 11	29.953	70	86	57	83	50	70	67	SW	SW	SW	10	8	12	C	F	O	—	—
" 12	29.690	75	87	63	70	85	51	76	W	NW	NW	7	10	4	O	F	F	—	—
Week.	30.025	62	87	49				84										14.35	0.20

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

AMERICAN SOCIAL SCIENCE ASSOCIATION.

THE date for the Saratoga meeting of 1880 is from the 7th to the 10th of September, inclusive. The general sessions will be held only in the morning and evening; the department meetings in the morning, with liberty to adjourn over to the afternoon, if their business requires it. Two of the department papers may, if desired, be read at the general sessions. One hour will be the limit of addresses, except the Annual Address of the president, and forty minutes the limit of each paper in reading. There will be debates as follows: Wednesday evening, September 8th, on The Adulteration of Food, Drugs, and Domestic Articles, in the health department, after the reading of a paper by Professor S. W. Johnson, of Yale College; the debaters being Professor W. R. Nichols, of Boston, Professor S. A. Latimore, of Rochester, N. Y., Clifford Mitchell, M. D., of Chicago, Professor C. R. Fletcher, of Boston, George T. Angell, Esq., of Boston, etc.; Thursday evening, September 9th, on Railroads; Friday evening, September 10th, on Public Parks, after a paper by F. L. Olmsted, Esq., of New York. The addresses and papers already agreed upon, in addition to those above named, are as follows:—

In general session. Tuesday evening, September 7th, at eight o'clock, Annual Address by President Gilman, of Baltimore.

Wednesday, at nine A. M., reports and communications; at ten A. M., a report by Joseph D. Weeks, Esq., of Pittsburgh, Pa., on Casualties in Mining.

Thursday, at ten A. M., a session for business.

Department meetings. Wednesday, September 8th (in the educational department), at nine A. M.

Wednesday, September 8th (in the health department), at 9.30 A. M., an address by Dr. D. F. Lincoln, of Boston, chairman of the department; at 10.30 A. M., a paper by Colonel Waring, on Yellow Fever; at twelve o'clock, a paper by Dr. E. W. Cushman,

ing, of Boston (secretary of the department), on The Regulation of Medical Practices by Statute.

The next meeting of the council will take place at Saratoga, September 7th, at four P. M. After the new election of officers at the September meeting of the association, the council will probably meet at Saratoga by adjournment, and attend to such business as may come before it; its next quarterly meetings will be in December, 1880, and March, 1881. The day and hour for the election of officers at Saratoga will be announced in the next circular. The headquarters of the association will be at the United States Hotel during the Saratoga meeting, where members will be received at reduced rates; the sessions will be held in Putnam Hall.

Boston, June 2, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 19, 1880, TO JUNE 25, 1880.

CHRONHITE, H. M., captain and assistant surgeon. Granted leave of absence for two months. S. O. 134, A. G. O., June 18, 1880.

The following promotions and appointments are published:—Lieutenant-Colonel W. S. KING to be surgeon, with the rank of colonel.

Major JOHN E. SUMMERS to be surgeon, with the rank of lieutenant-colonel.

Assistant Surgeons WILLIAM E. WATERS, EDWIN BENTLEY, GEORGE A. OTIS, and GEORGE P. JAQUETT to be surgeons, with the rank of major.

RUDOLPH G. EBERT, of Oregon, ROBERT J. GIBSON, of Connecticut, ROBERT B. BENHAM, of Pennsylvania, WILLIAM C. GORGAS, of Alabama, NORTON STRONG, of Michigan, and ARTHUR W. TAYLOR, of New York, to be assistant surgeons United States Army.

Lectures

SOME OF THE SYMPTOMS OF BRIGHT'S DISEASE.¹

BY ROBERT T. EDELL, M. D.,

One of the Visiting Physicians at the Boston City Hospital.

ALTHOUGH between these two extremes we meet with intermixtures in almost all proportions, although it is hardly possible that interstitial nephritis should go on to the formation of the hard contracted granular kidney without having produced more or less parenchymatous disease, and although the same causes which give rise to well-marked parenchymatous disease may involve to some extent the interstitial tissue, yet, taking into consideration the predominant factor in the most typical cases, it is clear that we have two tolerably well-pronounced and distinct diseases, often associated with each other, it is true, but differing in pathology, symptoms, and ætiology. By far the most important difference, however, is in the relation borne by the two diseases to the accompanying symptoms. In parenchymatous nephritis we have a disease of the kidneys, local, like pneumonia or cirrhosis of the liver, upon which depend the symptoms. In interstitial nephritis we have also a local disease, but as a part of a more general one, the symptoms being partly dependent upon and partly only coincident with the renal lesion.

What name shall we give to this general disease? Dr. Mahomed speaks of Bright's disease without discriminating very clearly between the two forms, and yet including vascular changes which usually precede only one of them. This is objectionable as a name for the general disease, because it includes, if Mahomed's theory be correct, a condition which Dr. Bright did not describe and did not intend to, that is, a state of high arterial tension, without albuminuria, without dropsy, and very possibly in some cases without organic changes in the kidney. If we call it arterio-capillary fibrosis, according to the lesion described by Drs. Gull and Sutton (but which, perhaps, does not exist), we are, it may be, using as a name an effect rather than the essential lesion; and in fact I do not think the links in the chain of causation as yet well enough made out to justify a new nomenclature. I should prefer to speak of it simply as a condition liable to be followed by interstitial nephritis or contracting kidney.

It must be only from a series of accidents, as it were, that we can tell whether this condition can be detected before absolutely any change has taken place in the kidney. Probably we cannot do this, for, judging from the more advanced cases, the change goes on as rapidly in the kidneys as anywhere, but it is very certain that unless we reckon (as a sign of this change) an increased flow of light urine, which is really dependent upon increased tension, and not upon renal changes, symptoms pointing to the kidneys alone are not always among the first to make their appearance. It might be expected that, just as tuberculosis may make itself most marked now in one organ and now in another, this condition would do the same, and yet somewhat as tubercle in the adult shows a special predilection for the lungs, high tension and thick arteries seldom fail, when reaching their full development, to produce the atrophied kidney and the well-known hypertrophied heart.

There is at present a decided tendency, among those

who have investigated this subject most carefully, to make the vascular changes the primary ones; to suppose, that is, that high arterial tension is *first* developed, and as its consequence renal, cardiac, and sometimes arterial and cerebral disease. The changes in the small renal arterioles have been long known, and it was at first supposed that the resistance to the passage of the blood through them was sufficient to raise the tension of the blood and throw enough additional work upon the heart to cause hypertrophy; but it can easily be shown that the kidneys do not affect a large enough part of the total circulation to bring about such a result, even if they were totally atrophied, while it is very clear, from the amount of urine secreted, that the quantity of blood passing through them cannot be much diminished. The observation afterward made, that similar changes were found in other arteries, furnished, however, a little better basis for this theory. But it has been found that, although this thickening is frequent, it is not invariable, even when the heart is hypertrophied. So that, notwithstanding these various theories express a certain amount of truth, none of them cover the whole ground, and we must fall back upon either the theory of myocarditis and relative insufficiency of the aorta, which, though sometimes occurring, are far from being invariable, or the older notion of impurity in the blood, which prevents its easy passage through the capillaries.

This last theory is one which has much clinical evidence in its favor, albeit it is not proved true in its completeness, and in order to make it of value we must inquire, How do the arteries become degenerated, or from what source is the blood poisoned?

To this question we can give answers which, with reasonable probability, will cover a part of the ground, while the rest must be left to conjecture, approaching more or less nearly to probability. Advancing years are accompanied by rise of tension and loss of elasticity in the arteries, and these conditions are often closely connected with the cause of death in the form of organic disease of the heart, or interruption in the cerebral circulation, either from rupture or plugging of the vessels. A certain amount of interstitial nephritis and atrophy, especially in the outer layer of the cortical substance immediately below the capsule, may often be found, even when there have been no decided symptoms pointing to the kidneys. It is, however, very common to encounter, when they are looked for, a few hyaline casts in the urine of elderly people. If atrophy goes on slowly and regularly, corresponding to the lessening activity of tissue metamorphosis and consequent lesser demand upon the renal activity, there is no reason why the renal symptoms, strictly speaking, should become troublesome, and in fact in older persons, unless special search is made, we may easily overlook contracting kidneys in connection with organic disease of the heart, arteries, and brain. In such cases the exact diagnosis is a matter rather of scientific and prognostic than therapeutic interest, since the treatment would not be materially affected by the suspicion or even certainty of a moderate amount of renal atrophy. At what age this change is most likely to begin it is impossible to say, since old age is not always a matter of years, but of constitution, habits, and exposure. Of ninety-eight centenarians whose deaths were reported to the board of health in New York, only one is said to have died of Bright's disease. At the autopsy of Captain Lahorbush, who was sup-

¹ Continued from page 6.

posed to be one hundred and eleven years old, one kidney was entirely destroyed, and the other very much atrophied, yet he had never had any symptoms referable thereto except the tumor in the right side connected with the right kidney. Sir Duncan Gibb reports the kidneys of Mrs. Elizabeth Leatherlund, who died aged one hundred and eleven, as healthy, though soft and flabby.

Lead poisoning is reckoned a not infrequent cause of interstitial nephritis, and also often associated with high tension, especially during paroxysms of colic. Hence the occurrence of high tension in a case exposed to lead, having lead colic, or with the blue line on the gums, should lead us to warn the patient as to what to expect, even if no other symptoms are present, and the treatment of the threatened Bright's disease will be the treatment of the plumbic diathesis, demanding the change of employment, the regulation of the bowels, even by purgatives if necessary, and perhaps the iodide of potassium. We should be led into error, however, if after resorting to appropriate treatment for lead poisoning we should express an exceedingly unfavorable prognosis in all cases, even where the high tension is present. Patrick M., for instance, whom you have seen twice within a few weeks with severe lead colic, he being employed in the dustiest part of the neighboring lead works, and having a most characteristic blue line on the gums is a case in point. He has a very well-marked tracing of high tension, but his urine has a specific gravity of 1025, and contains neither albumen nor casts. Another case (William H.) was here two years ago with much more obstinate symptoms, and his urine contained (beside lead) both albumen and casts, and was of specific gravity 1020. I should feel as if the prognosis in this case were much more serious, but even here should wait for a subsidence of the acute symptoms before giving an opinion as to the existence of granular kidney.

Gout is so notoriously connected with the contracting kidney as to have given it one of its many names, — the "gouty" kidney. But this disease is seen in this country with such comparative infrequency that if it were not possible that subacute rheumatism had a somewhat similar effect it would lose much of its importance in this connection. Dr. Todd, in beginning his lecture upon the gouty kidney, says: "A knowledge of the real nature of gout and of its kindred malady, rheumatism, is, in my opinion, at the very foundation of all sound pathology."

Two cases, neither of which, it may be said, has yet furnished us with any pathological specimen, may illustrate the gouty origin. A large man of fifty-nine, whom I had not seen professionally for a number of years, came to complain of a fullness and tightness on top of his head. He cannot go up-hill or up-stairs quickly. He passes a good deal of water; some passed in my office was of specific gravity 1015, with a slight amount of albumen and hyaline casts. His tracing is moderately square-topped. There is nothing abnormal to be seen by the ophthalmoscope. Seven or eight years ago I saw him with a painful and inflamed great-toe joint, which I considered of a gouty character, and treated with colchicum. Since then he says that he has been subject to similar attacks, though less severe, he having treated them himself successfully with colchicum. His headaches have been much relieved by iodide of potassium, but his urine still contains a small amount of albumen and a few small casts.

Perhaps some of you may have seen here last spring a man with finger-joints red and swollen at times, who usually passed urine of 1010 specific gravity, which at the time he left the hospital contained neither albumen nor casts. At other times it had contained a considerable amount of both. During the periods of inflammation the tracing of his pulse indicated a low tension, and was in fact a tolerably characteristic fever tracing; but as the swelling and pain subsided under colchicum the tracing became that of high tension, and corresponded very well with the character of the urine just mentioned, — that of contracting kidney. It is, I think, fair to consider this man as in the early stage of contracting kidney, due to his gouty diathesis, and, what is of great importance, I see no reason why treatment directed toward the diathesis should not be of great advantage, at least in delaying the progress of the renal cirrhosis. His general condition, in fact, improved greatly during his stay here. There is another case now in the ward (Michael F.) of a somewhat similar character, except that the renal disease is, I think, rather more advanced. Beyond this point we get more and more into the region of conjecture, but certain suggestions of a good deal of importance have been made as to the influence which may be exerted by products or results of mal-assimilation acting like the gouty or lead poison in the blood. Thus, habitual over-eating and under-exercise, if not resulting in the more obvious and perhaps safer dyspepsia of the *primæ viæ*, may keep the blood constantly charged with a much larger quantity of nitrogenous material than is demanded for the use of the tissues, which on the one hand by its difficult passage through the capillaries raises the tension in the arteries, and on the other throws a constant burden of overwork upon the kidneys. If this condition be detected before actual renal lesions have occurred the advice we ought to give is plain enough, and fortunately it does not demand that we should inform the patient that he is suffering from or even liable to "Bright's disease," but simply that he is in a state which demands care. Unfortunately, however, most people take medicine more easily than they do advice, and our warnings will have much less effect at the time when their chance of doing good is greatest than afterward, when dyspnoea, a little dropsy, or disturbed vision has excited the patient's fears. It is in such cases that Abernethy's prescription, "Live on sixpence a day and earn it," would be useful.

Dr. Murchison considers one of the functions of the liver to be the decomposition of nitrogenous material into the easily soluble urea, and thinks that when the liver fails of its functions lower products of oxidation, such as uric acid or others less well known, are found and circulate in the blood, but without necessarily giving rise to a true gouty paroxysm. This condition he terms lithæmic, and describes the symptoms, which are chiefly those of dyspepsia, with constipation, headache, drowsiness, giddiness, and restlessness at night. He thinks this condition, by throwing a burden of excrementitious material upon the kidneys to be eliminated, becomes one of the chief sources of nephritis, both of acute Bright's disease and of the contracted, granular, or gouty kidney. He quotes Dr. George Johnson as saying that renal degeneration is a consequence of the long-continued elimination of products of faulty digestion through the kidney. The lesson from this is that you had better take much pains with a curable dyspepsia than be called upon to deal

with an organic disease which will prove much more intractable.

We can hardly leave this part of the subject without considering a question often raised in this connection, that is, the influence of alcohol in the causation of both forms of Bright's disease. It has been suggested that alcohol, being eliminated by the kidneys, may there set up an interstitial nephritis akin to that of the liver in cirrhosis. The objection to this comparison is that while alcohol, being taken up from the stomach, may exist in the portal vein in a state of comparative concentration, that which gets into the general circulation is of course much more diluted, and, what is of far greater consequence, is so rapidly oxidized that only a very minute proportion escapes by the kidneys, so that the irritation which may well exist in the liver does not take place in the kidneys. The question, however, is to be answered rather by observation than by reasoning, and is certainly not an easy one. We can hardly accept Dr. Dickinson's statistics, by which he shows the average number of cases of Bright's disease to be about the same in those whom he considers alcoholics and those not so, since it is by no means certain that persons whose employment gives them special opportunity to drink will do so to excess, or that those who have to buy their liquor will be comparative or total abstainers. Although a bartender is very likely to be his own best customer, yet if he and his assistants were the only or chief consumers the traffic could hardly be so profitable a one as it seems in this city. Hospital statistics are not very easy to be got in such a form as to make them of great value, since a very large proportion of our patients suffering from all sorts of diseases are more or less free users of alcohol. But I have a strong impression — although I could support it only by isolated cases, and not by means of figures — that parenchymatous nephritis, together with the granular degeneration in other organs, is not an uncommon termination to the career of an old soaker. As to interstitial nephritis, I could certainly point to a good many instances of the most typical character where no such cause could be traced. Dr. George Johnson says that "dyspeptic symptoms and consequent renal degeneration are in some cases excited or greatly aggravated by habitual excess of alcohol." If the condition of long-continued dyspepsia, which is undoubtedly frequently connected with alcohol, is supposed to intervene, it is easier to trace the connection between constant drunkenness and Bright's disease, but it is pretty certain that it is not an invariable nor even a specially frequent one.

Again, it is probable that mental strain of various kinds plays no insignificant part in the causation of granular kidney. Dr. Clifford refers no less than twenty-four out of thirty-two cases in private practice to some long-continued anxiety or great grief. It may be that the phrases "mental tension" or strain have more than a figurative significance when applied to the heart and blood-vessels.

It seems that the prophylaxis of granular kidney, the most insidious form of Bright's disease, involves chiefly the ordinary rules of personal hygiene. While the parenchymatous disease usually depends upon scarlet fever, pregnancy, exposure to cold, previous disease of heart, phthisis, or with somewhat less frequency follows chronic diseases, the interstitial depends more upon the habits of life, and is to a considerable extent within the control of the individual. Moderation in eating, plen-

tiful exercise, avoidance of too great devotion to "business," avoidance of metallic poisons, especially lead, attention to the secretions, notably of the skin and bowels, the use of pure water in sufficient quantity to dissolve urates and other excrementitious products, but not enough to retard digestion, — all these are precautions against interstitial nephritis, but against many other diseases and disorders as well.

If, however, we find ourselves in presence of a case where we have no doubt of an actual nephritis, and not merely a tendency or liability thereto, what therapeutic measures shall we take and what success may we anticipate? The treatment of some of the symptoms I have already mentioned, and they cover a good deal of the ground. The prognosis must, I think, vary with the character of the disease.

Parenchymatous nephritis is not always to be sharply divided into acute and chronic, but the former is likely to shade off into the latter. The acute form, however, has much the more favorable prognosis, and the more closely the case before us follows the acute type the better are our chances of success in its treatment. It is, I will not say, an invariable, but certainly a very frequent result of a stay in the hospital that a patient with epithelial nephritis gets better. His dropsy diminishes or disappears, his digestive disturbances are relieved, and he often goes out and to work again. This improvement, although real, is usually but temporary, yet we may see in it the advantages of rest, regulated diet and sustaining treatment, and attention to the secretions, especially those which relieve the kidneys. The same results may be obtained outside the hospital. And the period during which a person may live, and live in comfort, while all the time a distinct nephritis is going on, is by no means inconsiderable. In a case under the care of one of my neighbors and friends, puerperal convulsions occurred thirteen years ago. I have examined the urine from time to time since, and always found albumen and casts; yet the patient has had two children since this time without convulsions, is a tolerably active woman, and, though not robust, is perhaps no more of an invalid than many women who have much less serious disease than I have no doubt she has. Another case died ten years after the first general oedema, having had albuminuria all the time, but increased in quantity at times when headaches were severe. This patient was treated with tannic acid for a long time. There seems no reason why cases, where the renal epithelium is not too deeply affected, even if not of the most acute type, should not recover under the same sort of treatment which leads to recovery in the acute disease, and to decided improvement or great prolongation of life in many others.

Diaphoretics and cathartics have already been mentioned in connection with the dropsy, and in fact the dropsy is likely to keep about an even pace with improvement in the general symptoms, although its disappearance is by no means to be taken as proof of a "*restitutio ad integrum*." Claims of course have been made in favor of various drugs supposed to have more or less of a specific effect. A recent writer in the *Journal de Thérapeutique* claims excellent results in the diminution of albumen from the use of alkalies in the form of mineral waters containing bicarbonate of soda. In two patients, to whom I have given, not mineral water, to be sure, but bicarbonate of soda, the amount of albumen rose from about four to about the neighborhood of eight grammes per diem. This nat-

urally may have been a mere coincidence, but certainly shows no remarkable curative effect.

Another drug lately brought forward as having great efficacy in diminishing the amount of albumen in the urine, especially in cases of parenchymatous nephritis, is fuchsine or chlorohydrate of rosaniline. Many of the cases reported, however (Bouchut, Feltz), are far from conclusive, some of them being acute nephritis, after scarlatina or exposure to cold, which very frequently do well without treatment, while in others the milk diet can hardly be left out of the account, as a very important agent in the cure. Even its friends admit that fuchsine is little likely to do good to old cases, and also that it has no effect on the interstitial tissue, while others (Dieulafoy) say that all the good it does (it certainly seems to do no harm) is to render the urine pink,—a result to attain which, even though pleasing to the eye, is hardly worth any great therapeutic activity.

The prognosis of *interstitial* nephritis is somewhat different; for although, when once fairly begun, it never goes backward, yet it is true that its progress is often slow, and also that the kidneys contain secretory tissue enough in excess of the ordinary wants of the organism to allow considerable shrinking before troublesome symptoms occur. These symptoms too are often the results, not of the essential interstitial disease, but of an intercurrent parenchymatous affection, which to some extent is amenable to the same treatment as if it were the only abnormal condition present. Yet, when an interstitial nephritis has advanced to such a point that the patient, notwithstanding the activity with which he may be engaged in business, can no longer possibly conceal from himself the fact that he is very sick; when his eyesight fails, the palpitation of the heart is a constant annoyance, headaches are frequent and severe, the prognosis is of the most gloomy kind, and the treatment reduces itself to that of the most troublesome symptom.

The milk diet, which has been employed in both forms of nephritis, is undoubtedly of great value; not, be it said, that there is anything in the milk itself as an *addition* to ordinary diet of special value, but that under a diet consisting of but little or nothing beside milk many symptoms improve, diuresis takes place, and a sort of remission is gained. It is, however, no trifling matter to endure an almost exclusively milk diet for even a month, and many patients would decline to submit to it unless something better could be promised them than merely a temporary alleviation during a continuance of their fast.

Dr. Mitchell reports¹ several cases of albuminuria in which the skim-milk diet was of great benefit. Of these, however, the first was a case of acute dropsy, of which we may make the same remark as when speaking of fuchsine. The second, one of chronic contracted kidneys, in which the symptoms became greatly ameliorated after a milk diet; but the milk was not well borne after three weeks. The third, so far as one can judge from the account given, was rather a doubtful case of nephritis, and was associated with malarial infection, to say nothing of hard drinking. He recovered. The fourth was a local nephritis from inflammation connected with a carious rib, where the renal symptoms disappeared with the improvement in the local and general conditions.

We can hardly conclude our remarks on the therapeu-

tics of Bright's disease without some allusion to the various mineral waters which are supposed to work such wonders. I do not know of any common property possessed by the different springs enjoying high reputations as curing "Bright's disease," unless it is the absence of any very marked activity. It is possible for all sorts of mineral waters to be of use in the different forms of nephritis without possessing any specific curative effect. Firstly, pure water is to a certain point a diuretic, and promotes the washing out of the renal tubes. This, however, is not necessary in interstitial nephritis, but the advice, very apt to be given with these waters, which could just as well be given with Cochituate, but which is much more likely to be heeded if the accompanying beverage has a name, namely, to drink nothing else, may be of much consequence in the treatment of dyspepsia, cause or consequence of the early stages of this disease. Alkaline or cathartic salts or, in very dilute solutions, iron, may each be useful in different forms, but with all these allowances I think most of the cures reported are based either on temporary improvements, which fortunately are not exceedingly rare, or else on such diagnoses as I have before alluded to. It seems to me that we are justified in saying that the effect of medicinal treatment on therapeutics, in the narrower sense, is much greater on the parenchymatous than on the interstitial element of the disease, but that in both forms, diet and regimen, particularly if employed at an early stage, are of the highest importance.

In these remarks I have omitted a very noteworthy class of renal diseases, which, however, have a very different pathology, and especially aetiology, from those we have been considering. We may have both parenchymatous and interstitial nephritis arising from local causes either in the kidney itself or in the urinary passages. Thus pyelo-nephritis may be a consequence either of a stone in the pelvis of the kidney or of a cystitis, and result either in atrophy of the renal substance or in abscesses with more or less destruction of tissue.

With obstruction in the urethra or ureters, making the passage of urine difficult, we may have hydronephrosis, which finally leads to atrophy of the renal substance, so that only small nodules or fragments remain here and there on the surface of an immense sac, or to an atrophy not preceded by dilatation, but probably by interstitial nephritis, where mere traces of tubes are found amid a crowd of Malpighian bodies. Under all these conditions the symptoms are usually entirely different from those we have been considering (although I have known a calculous nephritis mistaken for a contracting kidney), or rather, the symptoms indicating *renal* inflammation are likely to be masked by others preceding them, and frequently of a character more likely to excite the patient's attention.

It is often interesting to observe, after a patient has been secreting an amount of urine not noticeably diminished, how small an amount of renal structure is apparently left.

These diseases form a separate chapter both in diagnosis and pathology.

— It is intended to confer the honorary degree of D. C. L. of the University of Oxford on Professor Lister.

¹ Philadelphia Medical Times, March 15, 1871.

Original Articles.

ON THE SYSTOLIC BRAIN MURMUR OF CHILDREN.

BY WILLIAM OSLER, M. D., M. R. C. P. LOND.,
Professor of the Institutes of Medicine McGill University, Montreal.

I DESIRE in the following communication to call attention to this interesting clinical phenomenon, first described by Dr. J. Fisher, of Boston, in the *Medical Magazine* for 1893. Like many other observations, this one has suffered from the lapse of time, and has been, to a great extent, forgotten and neglected. In conversation with many physicians, some of them specially connected with pediatrics, I have been surprised to find how few were even aware of the existence of such a murmur. Very cursory mention is made of it in works on auscultation and, with a few exceptions, those on diseases of children. Up to 1863 the German and French physicians had written many papers on the subject, and within the past few years interest has been re-aroused in it by the publication of important memoirs by Jurasz¹ and Epstein.² English and American physicians have not given it much attention, and in the literature as collected by Jurasz the only references are Whitney, the *American Journal Medical Sciences*, 1843, and J. W. Smith, the *Lancet*, 1839.

In the autumn of 1876, I was asked by a medical friend to see a child, aged three years, with a remarkable murmur in the head, about which the parents were very anxious. The child was a well-nourished little girl, with a ruddy complexion, well-formed head, fontanelles closed; no evidences of rickets. On placing the ear upon any part of the head a loud, high-pitched systolic murmur could be heard, variable in intensity, loudest in the temporal regions, also audible in the carotids, and disappearing entirely on compression of these vessels. There was no heart disease. The mother had noticed the noise in the head, she thought, from the time the child was a year old, and the child also appeared conscious of its presence, but said she only heard it at intervals. The medical attendant had suggested the possibility of aneurism, but there did not seem to me to be any evidence in favor of such a view. I had a distinct recollection of the fact that a murmur was described as occurring in the brains of children, but I thought it was always audible over an open fontanelle, and partaking of the nature of a venous hum, originating in the longitudinal sinus. As the child was in good health, and the murmur had persisted for nearly two years, I gave a favorable prognosis. The mother did not appear satisfied, but I heard nothing further of the case for some months, when I recognized it in the description of a Case of Supposed Gummy Tumor of the Brain, in which the murmur was attributed to the possible existence of a syphilitic growth pressing upon the vessels at the base of the brain. About the same time Jurasz's memoir came to hand, and renewed my interest in the case, which has proved to be one of unusual value from the length of time which the murmur has continued. The history of the child from the spring of 1877 to the present is as follows: she has thriven, and is now a bright, intelligent little girl of seven, perfectly healthy, head not enlarged, and no trace of swollen lymphatic

glands in the neck. I have examined her on four occasions, and found the murmur persistent, with the same characteristics. On the 15th of May of the present year I examined her again, and found it still very distinct, loudest in the temporal regions, rather more variable in intensity than hitherto, and sometimes disappearing entirely for a few moments. It was with difficulty heard in the carotids.

I have examined about sixty children for this murmur, and have discovered it in eight cases, all under three years of age: one, a case of chronic hydrocephalus; one, chronic intestinal catarrh with rickets; the others appeared healthy. Among the sick children examined in whom no murmur existed were several cases of rickets, two of tuberculous meningitis, and one of chronic hydrocephalus. Dr. James Bell, late house surgeon of the Montreal General Hospital, examined one hundred children, and found only six instances of the "brain murmur;" but, as he remarked, the difficulty of detecting a soft, low-pitched *bruit* in the head of a struggling child in a busy, "out-door" room makes it probable that in many instances it was overlooked. No special note was kept in these cases of the condition of the children.

Observers differ very much in their estimation of the import of this murmur, some regarding it as pathological, others as physiological. Dr. Fisher thought it to be the former, and described variations of the murmur in such diseases as whooping-cough, congestion of the brain, acute and chronic hydrocephalus, and apoplexy. Barthez and Rilliet (1853) thought that it afforded a diagnostic sign between rachitic hypertrophy of the brain and chronic hydrocephalus. Roger (1859) and Hensch (1861) regarded it as specially connected with rickets. Wirtgen (1855), on the other hand, believed it to be physiological, and states that it is heard most frequently over the heads of robust children. The views of these and other writers are given very fully in Jurasz's monograph, and the discordance of opinion is amply illustrated. This author concludes that it is not pathological, but occurs in both healthy and diseased children, and does not stand in direct connection with any particular disease. In reading over the records of cases it is certainly noteworthy how frequent the subject of the murmur is described as rickety.

There is remarkable unanimity among all the writers as to the age at which the murmur prevails, the extremes in the recorded cases being the third month and the sixth year, the majority of instances occurring during the second year. The case of the little girl above given is of interest, therefore, in this connection, as she is now over seven years of age, and further from the fact of the persistence of the murmur since infancy. I have not found any recorded instance of the murmur persisting for such a length of time.

The seat of the production of the murmur is placed by most authors in the arteries at the base of the brain and in the carotid canal. Hennig believed it to be venous, and produced in the longitudinal sinus. It is worthy of note that in the majority of the cases a murmur is also heard in the carotid arteries.

Jurasz has brought forward evidence to prove that the murmur originates in the carotid canal, and as his explanation of it has not, so far as I know, been published in any English or American journal, it may be worth while to give a summary of his views: He measured the width of the upper and lower orifices of the carotid canal in twenty-five adults and twenty-five new-born

¹ Das systolische Hirngeräusch der Kinder. Heidelberg. 1877.

² Beitrag zur Kenntniss des systolischen Schädelgeräusches der Kinder. Prag. 1878.

infants. In the former the inferior aperture varied from 6.4 m. to 1 cm. in the long, and 5.4 to 7.6 m. in the short diameter; the superior aperture from 5.4 to 8 m. in the longest, and 5.3 to 7.4 m. in the shortest diameter. Measurements in the mature foetus and newborn when compared with these show a difference of from 4.1 to 6.2 m. for the long, and 3.7 to 4.6 m. for the short diameter of the inferior aperture, and 3.1 to 4.3 m. for the long, and 3.3 to 3.9 m. for the short diameter of the superior aperture. The carotid canal must therefore enlarge considerably in the course of development. Does this take place gradually, or does it occur more rapidly at one period than another? His observations and measurements go to show that up to the sixth month the canal does not enlarge, remaining unchanged; but from this date it widens rapidly, so that from the third to the sixth year the dimensions of the adult canal are attained. The enlargement is held to be due to the increase in volume of the carotid artery, and not to an independent growth, that is, expansion, of the bone; and this being the case it is not impossible that a temporary local disproportion ensues between the rapidly enlarging carotid artery and the surrounding bony wall, or, "in other words, a temporary stenosis of the carotid takes place in the carotid canal." This physiological stenosis is held to be the cause of the systolic brain murmur, which is to be regarded as a normal occurrence. It is the expression of a struggle between the artery and its bony investment, which persists until by the pressure of the pulsations the canal has been widened to a suitable degree.

Epstein¹ criticises this theory and the anatomical data on which it is based, denying the rapid expansion of the carotid canal after the sixth month and its enlargement by the pulsation of the artery. Taking the following circumstances as favoring the production of vascular murmurs, namely, wide vessels, rapid blood flow, diminished peripheral resistance, elasticity, and thinness of the walls, he proceeds to show that these prevail to an unusual degree in infancy, particularly in the vessels of the head, which, according to Beneke, are relatively larger than the others of the body. In children, also, the arterial walls are thinner, the capillaries wider, the blood flow more rapid, and consequently the blood pressure is low. The existence of such conditions, especially in anæmic children, is regarded as the predisposing, if not the exciting, cause of the brain murmur. He calls attention to a fact of great importance in this connection: in two cases there were found, *post mortem*, enlarged and hard lymph glands in the course of the carotid arteries, and in all children examined subsequently, in whom the murmur was heard, the presence of enlarged glands in this situation was determined. He suggests that the murmur may be due to this cause.

So far as my limited experience goes, I am not inclined to regard the murmur as of any special pathological significance. There can be no doubt, however, from the numerous observations of French and German physicians, that it occurs most frequently in weak, rickety children, but its presence and persistence in perfectly healthy infants are sufficient to disprove the peculiar connection which some have supposed it to have with this disease. Thus I have had a strong, well-developed child under observation since birth; the murmur appeared at the fourth month, and has now continued for twenty-two months, with little or no change. Though not prepared to criticise Jurasz's ingenious

view, not having entered into the anatomical question, I think that the cases of the little girl above mentioned, in whom the murmur has lasted for six years, and the infant in which I have followed it for twenty-two months, are strongly opposed, if not fatal, to any such theory. If the carotid canal is widened by the pulsation of the artery, it is scarcely conceivable that a *physiological stenosis* could persist for six years.

I have not been able to detect any special enlargement in the cervical glands along the carotids in the cases which have come under observation since receiving Epstein's pamphlet. In one case there were two enlarged and firm glands behind the sterno-mastoid muscle on the right side. Unless the enlargement is considerable, it is difficult to feel the deep glands along the carotida, particularly if the child is well nourished. Epstein's suggestion is, however, worthy of further investigation.

RECENT PROGRESS IN GYNÆCOLOGY.

BY W. H. BAKER, M. D.

THE ANTISEPTIC METHOD IN RELATION TO DRAINAGE OF THE PERITONÆUM IN ABDOMINAL SURGERY.²

J. KNOWSLEY THORNTON considers the question whether, if Lister's method be faithfully carried out, there is any need of drainage in ovariectomy. The fluid which, without antiseptic measures, we should desire to remove thoroughly by the most efficient drainage with them becomes innocuous, and may be left for nature to take care of by absorption. The objections raised to drainage are:—

- (1.) The difficulty of deciding when a tube is necessary.
- (2.) The tube, if not necessary, is decidedly a source of danger. It keeps open a possible track for the entry of the causes of putrefaction; it lengthens the time during which the wound is unhealed; and it may cause intestinal obstruction or chronic peritonitis.
- (3.) It retards convalescence, the author having found the average stay in hospitals to be longer where it is used.

He lays stress on the importance of tapping under spray, and never feels sure that he shall be able to effect perfect antiseptic ovariectomy if any previous tapping has been done otherwise, as, in such case, the causes of putrefaction may already be present in the cyst. He alludes to some of the dangers of tapping, and never advises it unless necessary to perfect diagnosis, or in cases of so great distention that it is well to relieve the heart, lungs, and kidneys a few days before performing ovariectomy.

After citing several cases in which he had used drainage tubes, he concludes as follows: "In fresh cases and with a careful adherence to the teachings of Lister, or, in other words, with aseptic cases and proper antiseptic precautions, I believe the need of drainage has passed away; at any rate, cases requiring it must be very exceptional."

Dr. Alexander J. C. Skene contributes an article³ on

² London Lancet, August 30, September 20 and 27, 1879.

³ Archives of Medicine, vol. iii. No. 1, February, 1880.

¹ Loc. cit.

GYNÆCOLOGY AS RELATED TO INSANITY IN WOMEN.

In the author's opinion the effect of disease of the sexual organs in women in causing and keeping up insanity has been more correctly studied than the influence which insanity exercises upon the sexual organs. Under insanity dependent upon uterine or ovarian disease he classes not only the comparatively few cases where the insanity is caused by reflex action, but the far larger number of cases where the uterine disease antedates the insanity by several years, the insanity being caused probably by impaired nutrition of the brain, the result in its turn of prolonged suffering.

The author has found not only in his own large experience, but also from an examination of the records of all the asylums in this country, that one of the most marked causes of insanity is frequent child-bearing and lactation among the poorer classes.

He insists upon the clear distinction that should be made, in the study of the ætiology, between insanity caused by existing active disease of the sexual organs and that arising from brain exhaustion produced by prolonged or excessive functional activity while free from any disease.

In considering the effect of insanity upon the reproductive system, Dr. Skene found that out of one hundred and ninety-two cases which were under observation for a period of six months there were but twenty-seven that menstruated regularly, thirty not menstruating at all, and the rest only at long intervals, all the subjects being between the ages of seventeen and forty-six.

The deductions drawn from these cases are: Well-developed insanity, with impaired general nutrition, causes suppression of the functions of the sexual organs. Deranged innervation tends to produce the same result. In mild forms of insanity menstruation may continue normal. Excessive menstruation among the insane is usually caused by uterine disease, and should be accepted as evidence of such. The influence of insanity upon the functional diseases of the uterus tends to cure them. Not so, however, with organic disease there; and it is to this latter class that the science and art of gynæcology applies with most marked advantage. In the examination and treatment of uterine disease in the insane the author uses nitrous oxide gas as an anæsthetic.

ANATOMY AND PATHOLOGY OF TWO IMPORTANT GLANDS OF THE FEMALE URETHRA.¹

From Dr. Skene we also have the description of two glands running parallel with the lower portion of the urethra, their mouths opening upon the free surface of its membrane, about one eighth of an inch within the meatus on either side. They extend from the meatus urinarius upwards from three eighths to three fourths of an inch, are large enough to admit a No. 1 probe of the French scale, and are situated beneath the mucous membrane in the muscular structure of the urethra. In certain cases where the mucous membrane of the urethra is prolapsed, the openings of these glands are quite visible; but in other cases the labia of the meatus must be slightly everted to bring their orifices into view.

When the author first discovered them, he thought they were mucous follicles which were accidentally enlarged; but, from the further examination of one hundred cases, he found them constantly present and of

nearly uniform size and location. The most important pathological condition in regard to them appears to be a continuous inflammation, which extends from the mucous membrane of the ducts to the surrounding tissues; and the mucous membrane of the meatus urinarius, especially in the region of the ducts, becomes thickened by proliferation and deep red in color. It thus may resemble very closely in appearance caruncle or papilloma of the meatus, for which it has undoubtedly been frequently mistaken, the points of differential diagnosis being that, in inflammation of the glands, their orifices can usually be distinctly seen, and by pressure upon the urethra the escape of the purulent secretion can be detected, while there is also redness and enlargement of the tissues surrounding the mouths of the ducts. In caruncle the glands are normal, and the diseased tissue is generally limited to the lower border of the meatus between the orifices of the glands. Inflammation of these glands causes exquisite tenderness to the touch, and the patient suffers great discomfort from walking or sitting; but there is usually no pain during urination.

From the author's observation, he is led to believe that the disease which he found was caused by gonorrhœa, persisting in the glands long after all traces of the original disease had disappeared. The clinical importance of a knowledge of these glands is thus readily seen, and is fully illustrated by the report of several cases by the author, from which it appears that to effect a cure the applications or treatment must be made directly to the tubules or glands themselves.

THE FEMALE PERINÆUM: ITS ANATOMY, PHYSIOLOGY, AND PATHOLOGY.²

The author, Dr. T. G. Thomas, attributes the great diversity of opinion regarding the propriety of the repair of the ruptured perinæum, as well as the difficulty attending the comprehension and performance of the operation, to an incorrect understanding of the anatomy of the part. He thus describes the function of the perinæum or perineal body: (1) It sustains the anterior wall of the rectum and prevents its prolapse, which would inevitably drag downwards the upper vaginal concavity and with it the cervix uteri, and so destroy the equilibrium of the uterus; (2) it sustains the posterior vaginal wall and prevents its prolapse, which would allow of rectocele; (3) upon the posterior vaginal wall rests the anterior, upon this the bladder, and against the bladder the uterus, all of which depend in great degree for support upon the perineal body; (4) it preserves a proper line of projection of the contents of the bladder and rectum, and thus prevents the occurrence of tenesmus, a frequent cause of pelvic displacements.

The author mentions the following influences by which the tonicity and efficiency of the perineal body may be lost: (1) feebleness; (2) feebleness, the result of prolonged over-distention; (3) subinvolution; (4) senile atrophy; (5) laceration.

— Mr. R. Barrett, in the *Victoria Review*, asserts that nine tenths of the blacks in Australia die of consumption, — “a curious commentary,” says the *Medical Press and Circular*, “on the practice of sending consumptive patients to Australia.

¹ American Journal of Obstetrics, April, 1880.

² American Journal of Obstetrics, April, 1880.

Hospital Practice and Clinical Memoranda.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.¹

SURGICAL CLINIC BY PROF. D. HAYES AGNEW, M. D., OF JUNE 9, 1880.

SCALP LACERATIONS AND THEIR MANAGEMENT.

GENTLEMEN,—This is a case of head injury, the result of an accident which happened only night before last. It occurred in this way: the patient, a laborer, about forty-five years of age, was endeavoring to get upon a railroad train while the cars were in motion; he slipped and fell heavily upon his back, and his head came in contact with some obstacle, perhaps the rail or a stone, producing this extensive lacerated wound of the scalp, which we shall presently examine. He was stunned and bruised by the fall, and was carried into a house adjoining, and subsequently sent to the hospital. I have not as yet examined the wound, but, as you see, upon taking off the temporary dressing applied by the resident physician, we have here exposed a laceration quite large in extent. You notice that the wound commences at the external angular process of the frontal bone, passes to the squamous portion of the temporal, and then follows very nearly the direction of the temporal ridge, back almost to the mastoid portion of the temporal bone. This wound is of sufficient depth to divide everything except the periosteum.

When we speak of scalp wounds we divide them, clinically, into three classes: first, those in which only the skin and superficial fascia are involved; these are attended by very little displacement, simply from the fact that the dense connective tissue found beneath the skin binds it down to the aponeurosis of the occipito-frontalis muscle. These wounds are not of serious import, and readily unite. They can be brought together with adhesive plaster, or by merely separating a few hairs from opposite sides, and clamping them together with perforated shot. We sometimes use the twisted suture, especially if there be some bleeding, but usually the adhesive straps, or clamping the hairs, are sufficient. Secondly, the wound may divide the occipito-frontal aponeurosis as well as the superficial structures, and this complication introduces a new feature into the case, because underneath the occipito-frontalis there is very loose connective tissue. You have noticed in dissecting that this aponeurosis can be removed with the handle of the scalpel or by the finger with little difficulty; it is very loosely connected with the parts below. When you have the wound extending to this structure, it is apt to be followed by much displacement. Moreover, when pus forms, it burrows in this loose tissue, there being no mechanical obstacle to its diffusion, and being imprisoned by the denser structures above, its tendency is to accumulate, and it may extend as far forward as the supra-orbital ridge. For this reason such cases require a great deal of watching. The first thing to be done is to secure any bleeding vessels, and some of these may be large enough to require a ligature. The three branches of the temporal artery found in this situation are often of sufficient size to require a thread. After removing with a stream of water, or soft sponge, any dirt or foreign

¹ Reported for the Boston Medical and Surgical Journal.

substance between the lips of the wound and shaving the parts, the edges may be approximated, either by one suture of silver wire, or by the application of a number of adhesive straps. There has been great diversity of opinion among surgeons as to the propriety of introducing sutures into the scalp; it has been supposed that stitches encourage inflammation, and often lead to erysipelas; a result which, in my opinion, is not so much due to the stitches themselves as to the tension made in bringing the edges together, particularly where there is loss of structure. The wound should not be drawn tightly together by sutures, because when swelling occurs the tension is greater than the parts will bear, and may, therefore, lead to inflammation of an erysipelatous character. With this precaution I believe that silver sutures can be introduced into the scalp with as little risk as anywhere else in the body.

Examine the case frequently, and see that there is no accumulation of blood or pus beneath the flap. In addition to the adhesive straps, which should be applied in sufficient number to support the flaps in good position, there is another thing to be done in the present case in order to insure the accurate adaptation of the flap to the periosteum, namely, the application of a bandage and compress, so as to prevent the gravitation of the pus on the side of the head to the neighborhood of the ear. The compress is made of patent lint or muslin, and is secured by a few turns of the roller.

The third class of scalp wounds is one in which all the tissues are divided down to the bone. It is evident that these require even more care than the preceding, as there may follow purulent separation of the periosteum and exfoliation of bone. Of intra-cranial complications I will not speak. These scalp wounds unite with great rapidity in consequence of the decided vascularity of the part. A cold-water dressing is generally all that is needed.

This next patient is also a case of scalp injury. He is about forty years of age. While working at Greenwich Point he fell through a hatchway, and received a contusion of the face and right hip, and this, apparently, superficial laceration of the scalp. Upon the face we notice an abrasion in which the cuticle merely is detached; it possesses no especial interest except that these superficial wounds are apt to be attended by a burning pain, from irritation of the peripheral nerves. Occasionally this pain, in the course of a few hours after the accident, becomes very severe. I have found the best treatment to consist in keeping the part wet with cold water simply by laying a wet cloth upon it; to this I sometimes add carbolic acid, or use the usual solution of carbolic acid in sweet oil (one in sixteen). The acid itself produces an anæsthetic effect upon the sensory nerves of the skin. I believe, however, that simple cold water answers every purpose. The dressing should not be covered with oiled silk, but just laid on and allowed to evaporate. The scalp wound will receive the same treatment as in the preceding case, by adhesive straps and cold applications.

FRACTURE OF RIBS; REMARKS UPON TREATMENT.

The next patient is a man who has also received a recent injury. His name is Martin B., fifty-one years of age, admitted this morning, with the statement that he had fallen from a scaffolding a distance of about eighteen feet, and struck the railroad track. He fell

upon his right side, and upon admission he called our attention to a pain in the chest. You notice when he attempts to speak, or to take a full inspiration, how abruptly he stops. There is probably something the matter with the ribs in this case, for there is no injury that produces this interference with respiration so suddenly as a fracture of the ribs. The pain which he complains of he locates upon the right side of the chest. Before examining the ribs, please notice also the difference in mobility between the two sides. Respiration is very largely carried on by the left lung. Nature here interferes to prevent the suffering caused by the expansion of the chest.

We find, on examining the ribs, a fracture upon the anterior part of the chest involving the seventh rib; and posteriorly we also find a fracture of at least three ribs, evidently the sixth, seventh, and eighth. This illustrates a point worth remembering. When force is applied to the ribs, the part most likely to give way is near the anterior or posterior extremity of the ribs. If you will examine the preparations in the museum you will notice this fact.

The signs of fractured rib are very evident: sudden arrest of the respiratory act, pain, and impaired respiratory movements of the affected side; to which may be added mobility, and crepitus, which can be heard as well as felt.

The treatment is to keep the parts at rest for four or five weeks. This may be done by wide adhesive straps reaching from the spinous processes of the vertebra to the sternum, or we may simply apply a roller. You may find some trouble in women on account of the mammary gland, but even here the adhesive plaster is the best means of treatment that you can employ. About four broad straps (two and a half to three inches) are required, they being brought from the side of the vertebra in the lower dorsal region around and up in front, following the curve of the ribs to the median line. They should be put on as smoothly as possible. The patient generally experiences marked relief from the first strap. In a patient with fractured ribs, whom I recently had before you, there was also an injury of the lung and some superficial emphysema from the air in the areolar tissue. In the present case no such complication exists, and when it does it requires no special treatment.

ANCHYLOSIS OF ELBOW-JOINT FOLLOWING DISLOCATION IN A MEDICO-LEGAL ASPECT.

The present case has an interest for all practitioners of surgery. He tells us that his right elbow was injured fifteen weeks ago by a fall from a wagon. His arm was treated by some medical gentleman in the country, who pronounced it a case of dislocation of the bones backwards, and treated it with retentive splints. He now presents himself with the arm helpless, and the joint distorted and in a stiffened condition. There is a good deal of rigidity in this joint; only with great difficulty can I obtain any motion at all. This is now a case of ankylosis, which may follow either fracture or luxation, and is always obstinate and troublesome. Adhesions form not only in but also around the joint, and the ligamentous structures become thickened. Sometimes these changes are such that the articulation never recovers its functions. These changes occur very soon after an injury to the elbow, and dislocations of this joint are apt to become

irreducible in a short time; the reason for this is not well understood.

Notwithstanding the fact that you may break up these adhesions by force, while the patient is under an anæsthetic, you will often find that the rigidity is again established; while, strange to say, in other cases, apparently similar, good motion is secured. You will not, therefore, be able to say in any given case whether the good results of the operation will be permanent.

It is always desirable to establish passive motion, and if the operation can be borne without the anæsthetic it is well to dispense with the latter; I mean to say, if the patient has the nerve, it is better, instead of accomplishing complete flexion and extension at once, to practice the movements each day, trying to gain a little improvement from day to day. Active motion by gymnastic exercises will also be of great service in stretching the adhesions, etc.; it may take several months to do it in this way, but the cure is more likely to be permanent. The cause of the failure under anæsthesia is easily comprehended. The force that is employed while the patient is in an unresisting condition causes violent reaction of an inflammatory character on the joint, and this is again followed by adhesions. At the beginning of the treatment, however, the breaking up of adhesions under ether is often necessary; but it must be subsequently supplemented by judicious exercise and gymnastics.

I have now sent the man from the room, because I wished to say nothing before him in reference to the case which might afford him grounds for a suit for malpractice against his physician. In every large clinic or hospital, the attending surgeons are liable to be imposed upon by persons who, if they can find a shadow of fault with their physician, will seek for an opinion, which they at once seize upon as evidence, and then find some lawyer who is ready to coöperate with them in a suit for damages. I recognized this as a case of that kind, and I did not, therefore, dilate upon the original injury. There has been a dislocation of both radius and ulna backwards. Dislocations of the radius are often overlooked. In such a case, where the radial luxation is not reduced, pronation and supination as well as flexion of the fore-arm would be interfered with.

There are a few points in the diagnosis and treatment of injuries of the elbow-joint which I cannot impress too strongly upon your mind. When the arm is extended, there are three landmarks standing in line, the external condyle of the humerus, the tip of the olecranon, and the internal condyle; the olecranon in its normal position is never above the line of the condyles. Injuries of the elbow-joint should receive attention at once; luxations here are very easy to reduce when treated early, but after the expiration of a week reduction may be impossible. For a satisfactory examination it will often be necessary to give ether.

If the case is old and ordinary measures fail, the next best thing is to divide the humerus subcutaneously, about two inches above the articulation and make a false joint. The muscles remain in place, and by this means a comparatively useful arm is obtained.

PHLEGMONOUS PHIMOSIS, WITH VENEREAL SORE.

A young man of twenty-two years comes before us with a venereal ulcer and phimosis, following impure connection four weeks ago; the sore first appeared four

days after intercourse. He had it cauterized, and since then has had this swelling of the prepuce, which appears to be phlegmonous. This may be due to a bad condition of the patient's system even more than to any application. There is no eruption upon the skin, but there is some enlargement of the inguinal glands. I think, however, that he has not had an infecting sore; but if he has, it is too late now to prevent systemic poisoning. Our treatment will be directed to diminishing the swelling by means of flaxseed poultices, and by bathing the penis in water as hot as can be borne. Water should also be injected under the prepuce with a small syringe. The poultices should be applied warm twice a day, and kept covered with oiled silk.

REMARKS UPON TALIPES VARUS; TIME OF OPERATION; TREATMENT BY MASSAGE AND ELECTRICITY.

I confess that I am not favorable to operations upon children as young as this one for club-foot; she is only three months old. There are several reasons why operations for club-foot do not succeed at such an early age after tenotomy and the application of the club-foot apparatus. It is very difficult to keep the heel of the foot in contact with the sole of the shoe. This is one of the cardinal points in the treatment of club-foot. Then, again, the skin is so delicate and tender that, unless extraordinary pains be taken, you will have excoriations.

Moreover, as this deformity is very often due to a paresis of the muscles, we are obliged to depend upon some form of mechanical contrivance after operation to take the place of the muscles; but, when the limb is pressed into a tight apparatus, such as Scarpa's shoe, there is very little chance for the affected parts to recover their powers.

Exercise of the muscles by passive motion daily, with kneading and rubbing to improve their nutrition, will be of great service in preventing the wasting consequent upon the paralysis, and may enable us to dispense with an operation. I will instruct the mother how to do this, so that it shall be faithfully and persistently continued. As the child's left foot is affected, the mother should take a firm grasp at the middle of the leg with her right hand, at the same time with her left twisting the foot into position by placing the thumb on the instep and taking the anterior half of the foot in the grasp of the hand; this will stretch the tendons and exercise the muscles. Each particular muscle of the leg affected must next be manipulated: first, by rubbing and pinching the skin, and the muscles afterwards, between the fingers. I consider this *massage* as extremely important in the treatment of club-foot, and it is surprising how much can be gained by it. If we subsequently find that the tendons are too short, the operation of tenotomy can be performed at any time before the child commences to walk.

In connection with the rubbing and kneading of the muscles, the daily application of the induced current of electricity would be of undoubted service. The general health of the child appears to be excellent.

—Virchow has been returned to the German parliament for the second electoral district of Berlin, as the candidate of the United Liberals. As is well known, he has already for several years occupied a prominent position in the German legislative body.

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

SIXTH ANNUAL MEETING.

DR. ROBERTS BARTHOLOW, of Philadelphia, read a paper on

THE TRANSFER OF SENSATIONS.

In order properly to introduce the subject he first gave a *résumé* of the results which others had accomplished by the mode of experimentation which he had himself pursued, together with the present state of physiological knowledge on the particular point involved in the inquiry to which he had directed his attention. In some experiments on his own person he found that the fall of temperature produced by the refrigeration of a member affected the corresponding region of the same side and of the opposite side alike. When a large part of the anterior surface of the thigh was artificially cooled, the temperature of the anterior surface of the arm fell, and to the same extent, as on the opposite side; but this declination of temperature was never greater than one half a degree. Repeating Brown-Séquard's observation, he found that artificial cooling of one hand depressed the temperature of the other scarcely half a degree; and since quite as much variation was produced on one side as on the other, he thought the explanation was to be sought for in the connection of the vaso-motor system with the spinal. He did not ascertain, as he hoped to be able to do, whether, when a part was refrigerated, all parts having the same anatomical relation experienced a declination of temperature; but he considered it probable that such was the fact.

The experiments which he made indicated that the transfer of painful sensations was limited to the same side. Pain of considerable severity was necessary in order to develop the secondary pain, the occurrence of which was first revealed to him in a patient with sciatica, in whose thigh he was accustomed to make hypodermic injections of morphia. He learned that a needle inserted at certain points invariably caused a corresponding pain in the upper member; while, when it was inserted at other points, no secondary pain followed. He further ascertained that the branches of certain nerves of the thigh when irritated caused a reaction in nerves having the same relative position in the arm. The amount of primary pain necessary to cause the secondary pain was that produced by a large needle touching a cutaneous filament of a nerve. The secondary pain was acute and nearly instantaneous; and if not felt on the instant it would not occur at all. The writer did not think the two sets of facts thus deduced contradictory. The lowering of temperature at symmetrical points on the same and on opposite sides was probably due, as he had suggested, to the symmetrical arrangements of the vaso-motor fibres accompanying the nerves of animal life from the common centre in the cord. The secondary pain produced by the irritation of a nerve on the same side was a phenomenon which might be compared to the irradiation of pain in the neuralgia.

Dr. Putnam spoke of cases which he had seen that had a bearing on this subject, and referred to a number of experiments which had been made for the purpose of investigating the transfer of sensations. The most striking of these was that of placing a lump of

ice in contact with one of the ears of a rabbit, when it was found that there was an enormous increase in the temperature of the opposite ear.

Dr. Beard said that he had occasionally noticed that when the faradic current was applied to the arm it caused a painful sensation in the leg on the same side, and that when it was applied to one leg a painful sensation was felt in the other. This was not at all a frequent occurrence, however, and he believed that he had invariably observed it in irritable females.

Dr. Jewell recalled in this connection the case of a gentleman suffering from hemiplegia. There was at first complete hemi-anæsthesia; but this afterwards improved. If anything hot were applied to the skin no sensation whatever was experienced, and the same was true with regard to the prick of a knife or needle; but if the patient were pinched severely, decided pain was produced. This pain was peculiar; for if the foot were pinched it was felt in the hip and shoulder-joints on the same side; while later on in the disease, if the foot were pinched, the pain was felt in the knee and elbow-joints. Curiously enough, too, in this case, if the hairs on any portion of the body were caught between the thumb and finger, a sort of wave of acute pain seemed to be carried up to a definite part of the scalp on the opposite side.

Dr. Spitzka called attention to the well-known fact that hepatic disease was often accompanied by pain under the shoulder, and he also mentioned a peculiar experience in his own case. Up to the age of eighteen he had been subject to attacks of urticaria, and he found that there were certain definite spots the irritation of which produced intense itching in entirely different parts of the body. The most prominent of these was one in the right hypochondriac region, and whenever this was scratched he immediately had an itching sensation in the region of the left scapula.

Dr. Miles thought that the study of this matter might be of some practical service in throwing light on the proper points where blisters should be applied, in order that they might exert their appropriate effect on the various internal organs; a subject in regard to which there was very great uncertainty at the present day.

At the other sessions of the association a number of papers of considerable value were presented. During the evening meeting of the first day one was read by Dr. Gray, of Brooklyn, on

THE USE OF QUININE IN CONNECTION WITH NERVOUS SEDATIVES.

Great relief, he said, was to be expected from the bromides in robust patients; but not to the same extent in the case of the weak and anæmic. His own experience had convinced him that there was considerable danger in using them freely in certain instances, and he had met with one case in which a fatal result was thus produced. He was a firm believer in their efficacy in epilepsy, as a general rule; but at the same time he felt that under some circumstances they should be used, if at all, only with extreme caution. For the past two years he had been in the habit of prescribing quinine in connection with the bromides, and he could but express himself as more than satisfied with the results obtained by this combination. At first he had employed it with timidity and in very small doses, as he feared, from what he had been taught, that it might perhaps interfere with their action, and only aggravate

the trouble present; but afterwards he had used it much more freely, and always with very beneficial effects. His practice now was to give first a sufficient quantity of the bromides to produce bromism, and then two or three grains of quinine three times a day in addition. He had met with a few cases in which quinine was not well tolerated, but as a rule such patients were able to stand the full sedation of the bromides; while in some instances he had deemed it advisable to stimulate the system with quinine before commencing the use of the bromides, on account of the weak condition of the patient. All his experience went to show that quinine actually increased the effect of the bromides, hyoscyamin, and belladonna, and he had also found that all these agents were much better borne by the system, as well as more efficient in their action, when administered in combination with quinine than when the latter was omitted.

The happy effect of the quinine with hyoscyamin was well shown in a case of puerperal mania which he had seen in consultation. When hyoscyamin was given alone it seemed to be of no service; but when quinine was added to it, although there was no malarial complication in the case, its use was followed by the most happy results.

Dr. Jewell stated that he had found strychnia exceedingly useful in combatting the depressing effect of the bromides when given in sufficient quantities to control epileptic attacks, and that it did not, as might perhaps at first be supposed, increase reflex irritability, and thus render the patient more liable to fits. He had not had much experience with quinine, however, in this way.

Dr. Webber said he was accustomed to use iron for the same purpose, and had always found it of great value.

Dr. Bartholow thought that, while the paper was a very excellent one, there was nothing particularly new in the measures which it advocated, since it had long been recognized that it was frequently necessary to administer tonics in connection with the bromides in epilepsy. He then went on to speak of the factors entering into the depression occasioned by the bromides, and said that, as a rule, they were not so efficient in weak and anæmic patients as in others, unless they were supplemented by tonics.

In reply Dr. Gray said that Dr. Bartholow had not seemed to appreciate the full scope of his paper, since he not only claimed that quinine counteracted the depression produced by the remedies in question, but that it actually increased their beneficial effect to a considerable extent.

The paper following was by Dr. S. G. Webber, of Boston, on

WATER AS A PROPHYLACTIC AND A REMEDY.

The subject of water-drinking, he thought, seemed worthy of more than a passing notice. A moderate quantity of fluid taken at meals he considered rather beneficial, while the abstinence advocated by many was injurious. In patients often classed as hypochondriacal or hysterical, where there was no well-defined disease, but only a sense of unrest and discomfort (sometimes amounting to pain) in various locations, and ordinarily accompanied by constipation, it had long been his custom to inquire about the amount of drink they took and the quantity of urine passed by them. Often the former was much below the average,

and there was a tendency to dryness of the skin, while the urine was scanty, high-colored, and strongly acid, and sometimes deposited a sediment on standing. Under the use of an increased amount of water the perspiration was increased, the urine became more natural, and the unpleasant symptoms diminished or altogether disappeared.

During comparatively good health the amount of blood in the system was maintained at nearly the same figure, only so much water being lost through the skin, lungs, and kidneys as could be restored from other sources. If too little water were ingested the balance each day against health was very slight, but finally there would be such an accumulation of used-up material that nutrition would be interfered with and unpleasant symptoms developed. If the person continued to eat heartily, the surplus part would either pass off by the intestines, or be deposited in the shape of fat, the nitrogenized portions of it assisting to load the urine with urea and urates. If such an individual were to drink more water, a larger amount of waste products would be taken up to be eliminated, and so there would be more disintegration of the tissues, while nutrition would be increased.

After describing the favorable effect of water upon the processes of digestion, the writer went on to inquire how much of it an adult should drink in the twenty-four hours. The quantity of liquid required as drink, he believed, would vary slightly with the activity of the skin and the character of the food taken. The amount of drink necessary, as stated by Dalton, was about fifty-two ounces, or 3.38 pints, while patients repeatedly told him that they drank only a pint or a pint and a half of fluid in a day. When an individual had for months and years averaged an insufficient amount of drink in the twenty-four hours, and the system had become charged with used-up material, it would not perhaps be wise immediately to administer large draughts, whether of ordinary water or of the mineral waters, but the quantity could be rapidly increased until the normal average had been exceeded, which for a while would be attended with advantage. Dr. Webber then related a case treated at the Boston City Hospital, which afforded an interesting example. The patient was a man sixty years of age, who said he had had rheumatism at times since he was a boy, and rheumatic fever seven years before. For more than ten years he had noticed a red sandy sediment in the vessel after micturition, which was frequent, while the quantity of urine passed was scanty. He was a large, fleshy man, with a very large tympanic abdomen, and said that he suffered from severe pains in the lower part of the back and the hips, numbness in the left leg, and considerable shortness of breath in going up-stairs. He had an idea that he had disease of the heart and kidneys, with dropsy, but there was nothing of the kind present, and no attempt was made to record all his complaints. On September 3d, 4th, 5th, and 6th he passed twenty, twenty-eight, twenty-nine, and eighteen ounces of urine respectively. He was told to drink water more freely, and was treated with fluid extract of buchu, when the amount of urine increased to forty, fifty, sixty, and sixty-eight ounces on four consecutive days, while his discomfort became greatly diminished, and he expressed himself as feeling much relieved. The writer also mentioned the case of a lady, the subject of very distressing nervous symptoms, who had restricted herself to a cup of tea night

and morning, which was the only fluid that she took, and of a physician who was suffering from many symptoms referable to overwork. He found that the latter drank very little also, and was troubled with constipation. In his case the diminished supply of fluid was not the only cause of difficulty, but, in addition to other measures, he was advised to drink more. When seen again, after eight months, he stated that the increase in the amount of fluid ingested had been beneficial, and that he was less constipated.

Human nature is such that if the doctor told his patient to drink two or three pints of Cochineate or Croton water a day, in addition to his tea or coffee, he would be likely to rebel; but if he were instructed to take that amount of Poland or Allandale, or some other similar water, he would forthwith have his keg of mineral water on tap, and drink it in the firm faith that in some mysterious way it would relieve him. In conclusion, the writer stated his belief that the insufficient ingestion of water was often a predisposing or even exciting cause of many diseases. He had found that a very large proportion of those who suffered from nervous exhaustion did not drink enough. He believed that it was an American peculiarity to ingest too little fluid, and thought that this fact might partly explain the prevalence of neurasthenia in this country. He considered also that one reason of the success of the treatment adopted by Dr. Weir Mitchell, and advocated by him in his *Fat and Blood*, and how to Make Them, was to be found in the large amount of milk which he gave his patients. It was not to be expected, however, that in all cases the mere increase of fluid ingested would cure. Too frequently the tissues had been so long illy nourished that that simple plan was not sufficient, so that the time to work the greatest cures with water was before the disease had begun.

Dr. V. P. Gibney, of New York, read a paper on

PACHYMEINGITIS CERVICALIS,

founded on three cases which he had personally met with in children, and in all of which Pott's disease had been diagnosticated by competent physicians. His conclusion was that, while absolute recovery did not take place in this affection, the results on the whole were quite favorable. In reply to an inquiry by Dr. Putnam in reference to the differential diagnosis between it and Pott's disease, Dr. Gibney said that this would be impossible from an examination of the patient; but that a close study of the history and careful observation revealed characteristic differences between the two. One of the most prominent of these was the frequent recurrence of spasmodic attacks of torticollis in pachymeningitis cervicalis. Then, again, there were very few cases of cervical paralysis in Pott's disease, and by means of a digital examination through the pharynx we could determine whether the vertebrae were affected or not.

One of the papers of greatest interest was that by Dr. Hammond on

THALAMIC EPILEPSY,

an affection which, he said, had not hitherto received special attention. So far as he knew, this was the first attempt that had ever been made to differentiate it as a distinct form of epilepsy. After mentioning the six forms enumerated by Hughlings Jackson, and stating that this authority did not regard unconsciousness as an essential element of the disease, he said that

the more familiar he became with the subject, the more thoroughly was he convinced that there was no true epilepsy without unconsciousness. The cases described in the paper were all characterized by unconsciousness, and yet they did not correspond to any of the forms spoken of by Jackson. The first case that came under his observation was that of a young unmarried lady, who had been affected for about four years. At first the entire paroxysm lasted but from thirty seconds to a minute, and the period of unconsciousness was only of a few seconds' duration; but afterwards the paroxysms became rather more extended, though they were always brief. In the attack the first thing that the patient noticed was a hallucination or vision (which she herself knew to be only a hallucination), and then came the short period of unconsciousness, when her head would fall forward on her breast and her pupils become dilated. There was no convulsion or spasm whatever, no fixing of the eyes, no rigidity, no acceleration of the pulse, and the breathing remained normal. Dr. Hammond had the opportunity of witnessing seventeen of these paroxysms himself, and he found that there was always a distinct aura, which originated in some part of the cranium, and in one or two seconds was followed by the vision. The inhalation of nitrite of amyl, ether, and chloroform, if commenced in time, entirely prevented the occurrence of the period of unconsciousness, and had the effect of dissipating the hallucination. If the patient directed her whole will power to the matter the same result sometimes followed, but not always. She was ordered to take fifteen grains of bromide of sodium three times a day, and under this treatment all the symptoms quickly disappeared. She continued to take the remedy for over a year, and then, thinking herself cured, she left it off. Later she married, and soon after this event the attacks commenced again, and were now of a much more aggravated character. Unconsciousness was almost contemporaneous with the hallucination, and the affection seemed to resemble epileptic mania. She was at once placed on the use of the bromide of sodium in the same doses as before, and was ordered eight grains of bromide of zinc three times a day in addition. The result was that the attacks once more promptly disappeared, with no return of them whatever, although she still continued to take the remedies.

In the second case the sense of hearing was first affected in the attack; the patient (a male) thinking that he heard voices calling to him. Then came the hallucination, and finally the brief period of unconsciousness. Bromide of sodium was prescribed in the same dose as in the other instance, and after the third day the paroxysms entirely disappeared. Three other cases were mentioned; but full notes of them had not been preserved.

It could not be doubted, Dr. Hammond thought, that these cases were instances of epilepsy, and from their peculiar characteristics, which clearly indicated the seat of trouble to be in the optic thalami, he felt justified in designating the affection as thalamic epilepsy. The rest of the paper was mainly devoted to a discussion of the relations and functions of the optic thalami, and in the course of it he expressed the opinion that it was at least exceedingly probable that these were the centre for perceptions. When an impression was received at the optic thalami from one of the organs of sense, as the eye, for instance, an *idea* was formed if this impression was conducted to the cortex; and as a

result of this there might be a *motor impulse* carried to a certain set of muscles. If, then, the optic thalami were in an abnormal condition, there would be *erroneous* perception; but this would be corrected at the cortex, if the latter were in its normal condition. The difference between thalamic epilepsy and ordinary epilepsy with hallucinations was that in the latter the hallucinations were accepted as real, while in the former this was not the case. Dr. Hammond felt confident, therefore, that in the affection he was describing the trouble was almost exclusively confined to the optic thalami; the cortex being but little diseased. That the latter was not entirely free from trouble, however, seemed to be shown by the fact that there was unconsciousness. An additional argument against the cortical origin of the disease was the entire absence of all muscular spasm. The conclusions which he derived from a careful consideration of the subject were, then, (1) that there is a form of epilepsy the only phenomena of which are hallucination and unconsciousness; and (2) that the morbid anatomical basis of this type is located in the optic thalami.

The following is a list of the other papers presented: Tests of Pond's Sphygmograph, and Stretching of the Seventh Nerve for Facial Spasm, by Dr. Putnam, of Boston; Experiments with the Jumpers of Maine, by Dr. George M. Beard, of New York; the Bromide of Ethyl as an Anæsthetic, by Dr. Isaac Ott, of Easton, Pa.; Demonstration of Woroschiloff's Instrument for Operating on the Spinal Cord, by Dr. Isaac Ott, of Easton, Pa.; A Contribution to Jacksonian Epilepsy, by Dr. Graeme M. Hammond (son of Dr. William A. Hammond); A Case of Acute Muscular Atrophy without Lesion of the Spinal Cord, by Dr. Putnam, of Boston; A Case of Multiple Tumor of the Encephalon, with Specimens, by Dr. Birdsall, of New York; Remarks on a Case of Hysteria, associated with a Thoracic Tumor, by Dr. E. C. Spitzka, of New York; History of Two Cases of Idiopathic Ulnar Neuritis marked by Extreme Pain in one and Lack of Pain in the other, by Dr. F. T. Miles, of Baltimore; The Diagnostic Significance of a Dilated and Mobile Pupil in Epilepsy, by Dr. Gray, of Brooklyn; The Structure of the Sympathetic Ganglionic Bodies, by Dr. Schmidt, of New Orleans (read by title); A Case of Peris-Encephalitis and Meningitis, with Remarks, by Dr. H. M. Bannister of Chicago, (read by title); and Experimental Researches on some Points relating to the Normal Temperature of the Head, by Dr. J. S. Lombard, of London (read by title).

At the afternoon session of the last day a resolution, proposed by a committee appointed for the purpose, was passed in relation to the death during the past year of Dr. E. R. Hun, of Albany, a valuable member of the association, and in the evening an elaborate preamble and series of resolutions, offered by Dr. Gray, of Brooklyn, on the subject of asylum reform, received the unanimous support of the members present, after some slight modifications and the adoption of an amendment, proposed by Dr. Hammond, to the effect that the resolutions should be printed, and that a copy of the same should be sent to every medical journal in the country, with a request for their publication.

The following officers were elected to serve during the ensuing year: president, Dr. Roberts Bartholow, of Philadelphia; vice-president, Dr. John C. Shaw, of Brooklyn; secretary and treasurer, Dr. E. C. Seguin, of New York; members of the council, Drs.

S. G. Webber, of Boston, and Frank P. Kinnicutt, of New York; and it was decided that the association should meet again in New York on the third Wednesday in June, 1881. Altogether the meeting this year was a very successful one, and not the least pleasant feature of it was a reception on Thursday evening, June 17th, given to the association and its friends in New York by Dr. Hammond at his elegant residence in Fifty-Fourth Street, near the leafy shades of St. Luke's Hospital.

NEW YORK ACADEMY OF MEDICINE.¹

THE DANGERS OF INTERNAL URETHROTOMY.

At the last meeting of the New York Academy of Medicine for the present season, held June 17th, Dr. A. L. Ranney, adjunct professor of anatomy in the medical department of the University of New York, read an elaborate paper entitled, Are the Benefits derived from Internal Urethrotomy, as now advocated, Commensurate with its Dangers?

The object of the paper, the writer stated, was to question the propriety of this operation except in certain rare conditions which were clearly recognized by all the best authorities. At the outset he quoted Sir Henry Thompson, Gross, Bumstead, Ferguson, and other eminent writers to show that it was extremely dangerous, and Erichson, Spence, Thompson, Acton, Van Buren, Samuel W. Gross, Gouley, Ashurst, and Keyes in advocacy of the use of gradual dilatation in its place. In the latest work published on this department of surgery, by Dr. Keyes, the author distinctly stated, *first*, that internal urethrotomy is dangerous to life; and, *second*, that it does not cure the difficulty for which it is undertaken. Dr. Ranney claimed that it was unnecessary, because the same or better results could be obtained by other means; and he considered that the general resort to it, now practiced, was an abuse of an operation which was justifiable only within certain narrow limits. Within those limits no one at the present day would dispute that it was of great value.

Dr. Ranney then proceeded to examine into the elements of the popularity of the operation. Among these were the following claims of its advocates: (1) that it effected a radical cure, (2) that it relieved certain symptoms more readily than any other agency, (3) that it could be easily and quickly performed, and (4) that it was comparatively free from danger. The rapid and wide-spread popularity it had attained was certainly remarkable. Between six and seven hundred operations had been reported by Dr. Otis alone, and about thirteen hundred by Dr. Otis and two or three other prominent surgeons who favored it. At the present day a urethrotome was sold to every tyro in medicine, and the only result possible would be that in consequence the science of surgery would soon be brought into disgrace.

The writer next enumerated the sources of danger from the operation, and among them mentioned uræmia, pyæmia, shock, hæmorrhage, infiltration of urine, and acute urethritis. In his first series of one hundred cases, published in 1875, Dr. Otis had reported a considerable number of accidents, but no deaths. In his second series of one hundred and thirty-six cases, however, there were four fatal cases: two in which peri-

neal section was also performed, and two in which urethrotomy alone was done. Hæmorrhage, Dr. Otis stated, was not considered an accident unless it could not be controlled by the means ordinarily used. He believed that many fatal cases had occurred in this country which had never been reported. Within the last week there had been no less than three deaths in the New York hospitals in consequence of the operation, two from pyæmia and one from uræmia. If the operation were not safe in the hands of good surgeons specially skilled in this department, was it not time that the profession at large should be warned of its many dangers? In 1871, in a hospital with which he was connected, he had seen gangrene of the penis, followed by death, resulting from it, and in 1876 he had had a fatal case in his own practice, while during the past year, in a case which he saw in consultation, there was atrophy of the penis and impotency, which he was convinced were due to the operation. Several New York surgeons had told him of fatal cases with which they were acquainted, and the results had been equally unfavorable in England and on the Continent. From the collected statistics it appeared that sixty-six fatal cases had already been verified. On the other hand, the method of gradual dilatation was almost entirely free from danger if it were gently and skillfully practiced. During the past ten years he had treated fully two hundred cases of stricture by this means alone, and in only five had any unfavorable symptoms resulted at all, while in each instance these were very easily controlled.

The benefits claimed for internal urethrotomy were stated as follows: *first*, that gleet, which nature held out as a signal to indicate the presence of stricture, was thereby removed; *second*, that various reflex symptoms, often of great severity, which were dependent on stricture, could thus be relieved; *third*, that all other methods of treatment were worthless so far as a radical cure was concerned; *fourth*, that by means of the dilating urethrotome a radical cure could be made; *fifth*, that the method was comparatively free from danger, and was to be recommended to the exclusion of all others; and, *sixth*, that all these claims were supported by the records now at the service of the profession. As to the first point, it involved the old mooted question, which had never been satisfactorily determined, "What constitutes a stricture?" The writer spoke at some length of the various opinions held in regard to this, and quoted from Paget to show that the claims of the new school of urethrotomists were by no means accepted. He thought the second premise could also well be questioned, and asked how many of those present would consent to such an operation in their own persons merely for the relief of gleet and certain vague symptoms supposed to be of a reflex nature, or at least until every other means had been tried in vain. The existence of such conditions, he considered, did not afford satisfactory reasons for undertaking so hazardous a procedure. As to the third point, it was true that strictures of a resilient character and those of traumatic origin could be cured only by cutting, but these were comparatively very rare. The vast majority of strictures, which were the result of inflammatory action, could be perfectly overcome, and kept in such a condition as to give rise to no further trouble by means of dilatation. The claim that even a dangerous operation was preferable to the passage of a simple dilating instrument from time to

¹ Proceedings reported for the JOURNAL.

time could not for a moment be allowed, and, beside, he was ready to assert positively that an entire cure could sometimes be effected by gradual dilatation alone. The fourth premise he was prepared to accept to a certain extent, but, nevertheless, he could not consider even this advantage sufficient to justify the use of such a dangerous operation. In regard to the fifth, enough had perhaps already been said, but he wished to add still a little more evidence as to the dangers of urethrotomy. From statistics published last year in Paris by Dr. Gregory, it appeared that there had been forty-six deaths out of nine hundred and fifteen cases, or a mortality of five per cent.; and he also gave other statistics showing the fatality of the operation in Europe. Recently a patient, upon whom internal urethrotomy had been performed at a dispensary, was brought by the ambulance to one of the large New York hospitals in a state of almost fatal collapse, in consequence of the hæmorrhage which had resulted from it, and had it not been for the merest accident, which led to the summoning of a hospital ambulance, the man would have bled to death in his room. The danger from the cutting operation was considered very much greater when the seat of stricture was more than three inches from the meatus. Another of the unpleasant results of the operation, which was of very frequent occurrence, and which was apt to cause the patient excessive annoyance, was curvation of the penis.

In bringing this paper to a conclusion, Dr. Ranney laid down the following rules for the treatment of uncomplicated stricture:—

(1.) Seldom resort to the knife unless the stricture is resilient, of traumatic origin, or situated near the meatus.

(2.) Never perform internal urethrotomy if the seat of stricture is more than four inches from the meatus. (Perhaps three inches would be a safer rule.)

(3.) If the stricture is located in the deep urethra, divulsion or perineal section is the best procedure in case dilatation fails.

(4.) Dilatation is practicable in the great majority of cases, and is followed by the best results.

(5.) Internal urethrotomy is to be resorted to only when other means of relief have failed, and under any circumstances only when the seat of stricture is less than four inches from the meatus.

Recent Literature.

Montreal General Hospital Reports. Vol. I. 1880.
Edited by WILLIAM OSLER.

About sixteen hundred in-patients and fifteen thousand out-patients are treated in the Montreal General Hospital in the course of the year. Some of the best of the material collected from these sources has been brought together and published in the first one of a series of reports which the medical staff propose to issue at intervals, as sufficient material is collected to justify the undertaking. Four carefully observed cases of leucocythæmia, with an analysis of the same by Dr. R. P. Howard, forms the first paper. In two of the cases post-mortem examinations were performed: the marrow of the sternum, one clavicle, and a rib was found in one case of a grayish-red color and of the consistence of splenic pulp, and in the other case of a purplish-red color, semi-diffuent, and without

evidences of fat. On microscopic examination in each instance it presented (1) ordinary colorless marrow cells, with granular protoplasm and distinct nuclei,—some larger than (even double the size of) white-blood corpuscles, and some of the same size; (2) small, round, lymphoid corpuscles, with large nuclei (not numerous in Case II.); (3) ordinary red corpuscles; (4) nucleated red corpuscles, varying in size and depth of color, some not larger than red non-nucleated forms, and others double that size,—“transitional” or “embryonal” forms, the nuclei often eccentric; (5) in Case II., some large *non-nucleated red discs*, which presented a striking similarity to the smaller nucleated forms; (6) myeloplques in moderate number; (7) bodies containing red-blood corpuscles. The marrow of the bones, therefore, in these two cases, presented in a well-marked degree the changes which have been observed of late in this disease. The author forms one of the number of writers who do not believe that a myelogenous form of leucocythæmia is proven and states the grounds of his belief forcibly. Nothing new was accomplished in the way of treatment. In one of the cases the interesting fact, however, was observed that though the exhibition of reduced iron and phosphorus very considerably improved the proportion of red corpuscles in the blood, proved by counting the corpuscles, the improvement being maintained for a month, the pyrexia persisted, the general symptoms grew worse, and exhaustion rapidly followed.

The second paper contains a number of interesting Medical Cases, by Prof. George Ross, among which is one of extreme dilatation of the stomach, caused by pyloric stenosis resulting from the contraction of an old ulcer, and a case of cirrhosis of the liver, with great enlargement, characterized by jaundice, fever, and hæmorrhages.

Dr. T. G. Roddick contributes several papers of interest, in one of which the results of the Lister antiseptic method, as practiced in the hospital, are given. The volume also contains the second pathological report of Professor Osler, which fully equals the merit of the first one. It comprises a selection from over two hundred post-mortem examinations. The Hospital Report comprises eighteen papers, covering about three hundred and seventy pages, and though only a few articles have been specified we are pleased to say that all have a high degree of excellence, and we heartily congratulate the staff on the success of their undertaking. We look forward with much pleasure to the subsequent volumes.

— In the *London Lancet*, Dr. George Johnson, of King's College, says, “From what I have seen of the effects of cold bathing, I have arrived at the conclusion that more people are injured than are benefited by the practice; and I am confident that if the urine of all men, women, and children who paddle about in the sea until they are blue and cold were tested within a few hours after their immersion it would be found to be more or less albuminous in a large proportion of cases.”

— Professor Rizzoli, of Bologna, has offered to the city 1,250,000 francs (\$250,000) for the purpose of founding an orthopædic institution. The villa of San Michele, near the town in Bosco, has been chosen for the establishment of the institute.

Medical and Surgical Journal.

THURSDAY, JULY 8, 1880.

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SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND.

THE second annual report of the State Board of Health for the State of Rhode Island covers the year ending December 31, 1879. It contains the general reports of the board and of the secretary; the reports of the secretary on vital statistics, acute diseases in the towns; the annual report from towns and from town clerks, the cattle commission; and special papers on the Artificial Feeding of Infants, Ventilation of School-Houses, Sewerage of the Dwelling, Disposal of Excretæ, and on Color-Blindness.

The events of the year in regard to the average condition of the public health throughout the State are said to have varied but little from the ordinary incidents of previous years, the most noteworthy feature being the occurrence of scarlatina in an epidemic form, especially in the city of Providence. The report, however, contains some interesting statistics and some useful papers. The secretary's report on vital statistics, which furnishes tables of the births, marriages, deaths, and divorces in the State for the year ending December 31, 1878, is very carefully and elaborately worked out. It was impossible to obtain returns for the year 1879 in time for publication. These statistics are classified and tabulated in condensed form, and in addition supplementary tables and summaries are given with comparative results and comments. The positive value of such statistics must depend largely, of course, upon the fullness and accuracy of the registration returns, and in regard to these the necessity of increased promptitude and exactness is dwelt upon. Their relative value for comparison with other years, though influenced in the same way, is greater.

In the chapter devoted to births we learn that the percentage of children of purely American parentage, in proportion to the whole number of births, had gradually declined for a series of years, until, in 1876, it was only 40.84; in 1877 it had risen to 42.74; and in 1878 to 43 in each 100. Of the children of purely foreign parentage the percentage has been in excess of the purely American for a considerable number of years, with the exceptions of 1873, 1877, 1878. Of the class of mixed parentage the percentage of births has steadily increased up to the year 1878. Table XXXII., which gives the number of divorces granted in each county and in the whole State for the last ten years, shows that the number has not increased during that period. Table XL. shows that the average percentage of mortality of

children of five years of age and under, for a period of sixteen years, has not exceeded thirty-six per cent, which is a lower average than obtains in some of the neighboring States having more large cities. There is a large proportional number of colored people in Rhode Island as compared with other Eastern and Northern States; the statistics touching them have been reported separately for a number of years, and the results are not without interest, showing as they do that in a period of eighteen years the excess of births over deaths is only forty-two, and this in spite of the fact that the State is having annual accessions by immigration of colored people of both sexes between the age of twenty and forty years.

In reply to a circular of the board, addressed to its correspondents, and containing among other questions one in regard to the use of opium, the answer from Newport gives a record of thirteen well-known opium eaters in that place who together consume the equivalent of thirty-four thousand grains of opium per month; of these one, a woman, has taken laudanum for twenty-five or thirty years, and for the past seven years has used four ounces of laudanum every day.

The work of the cattle commission during the past year has been mainly in the direction of the discovery and disposal of glandered horses. The secretary of the board, Dr. C. H. Fisher, contributes a paper on Glanders and Farcy, and recommends an appropriation by the General Assembly for the payment of some part of the cost price to the owner of any horse condemned to be destroyed on account of glanders. The paper on the Artificial Feeding of Infants was awarded the Fiske prize for 1879; that on the Ventilation of School-Houses is written by a gentleman who has had much personal experience of them. His preferences are strongly, and we believe judiciously, expressed in favor of good furnaces as being superior to the most approved methods of steam heating. This subject of the ventilation of school-houses is of the first importance, and is beginning to attract the intelligent attention it deserves.

MEDICAL NOTES.

— In the *Medical Gazette* we read that at the last meeting of the Anthropological Society M. Broca exhibited a human phenomenon in the person of a young lad aged eleven, a Piedmontese, named Jacques Inaudi. He left his native place a short time ago, and, in company with a monkey, he earned his livelihood by begging. When his appeals in the ordinary way were not attended to, he offered to solve mentally in a few minutes, and without any assistance of any kind, the most difficult problems in arithmetic. He was often put to the test; and, during his sojourn at Marseilles, a gentleman to whom he had appealed for charity was so astounded with the lad's gift of calculation that he was induced to bring him to Paris as a curiosity. When M. Broca presented him to the society he gave him verbally a sum in multiplication composed of some trillions to be multiplied by billions. This he accomplished in less than ten minutes.

mentally and without any aid whatever, in presence of the members, who were all struck with wonderment. The lad is far from intelligent in other respects, and can neither read nor write; and the most curious feature of his method of calculation is that he proceeds from left to right instead of from right to left. He is of the ordinary stature of his age, but his head is rather large and somewhat hydrocephalous in appearance. His forehead is high, and developed to an extraordinary degree. The question of the localization in the brain of such a function is as yet a mystery.

— To the *Indian Medical Gazette* Surgeon-Major Cameron writes that it is generally stated that sebaceous glands are absent from the palm of the hand and sole of the foot. In 1875 a police constable in good health was sent into the hospital on account of an intractable ulcer at the side of the foot, measuring three quarters of an inch in diameter. Its margins, composed of the tissues of the skin, were raw, red, smooth, and healthy-looking. Its base was covered with a brownish-colored, inert-looking membrane, which, when unfolded by means of a probe, was found to be comparatively insensitive, and to present a smooth, glistening, secreting surface on the side towards the exterior. It was removed by avulsion, and the ulcer, which had hitherto resisted treatment, healed quickly. The portion of the membrane removed had the characters of a cyst of a vein, and consisted only of a portion of the original cyst, — the external portion having been lost by ulceration. It was dense and thick, and, having a free outlet, it contained no mass of fatty, pulsatous secretion, but felt and looked greasy. The history was of a small painless swelling on the sole, of its gradual enlargement, its becoming painful and bursting, and finally the formation of the ulcer. In 1877 a strong and healthy man came with a dense resisting cyst, the size of a marble, placed under the skin of the plantar surface of the fifth metatarsal bone, the skin over it being red, painful, and adherent. It was obvious that this was an earlier stage of the affection mentioned above, and this was proved by incision and avulsion of the cyst. It was an ordinary enlarged sebaceous cyst, containing fatty, pulsatous matter.

— According to the *Medical Press and Circular* a Russian doctor, writing to the *St. Petersburg Medical Gazette*, recommends the hypodermic injection of quinine in the treatment of certain fevers in which the alkaloid is indicated, on account of the certainty and rapidity of its action. Besides, quinine thus administered had, upon the uterine contractions in confinements, a powerful and prompt influence. M. Smoliskii employs, from preference, chlorohydrate of quinine which does not crystallize at a moderate temperature he dissolves it in distilled water.

— “Another wonderful scientific discovery has just been introduced by Dr. Jechs, of Bethlehem, United States, by means of which persons can be made to see objects or identify individuals a thousand miles distant. The instrument which is to accomplish this simple feat is called a diaphote, and the *modus oper-*

andi is similar to telegraphy. At one end of the wire is placed a mirror composed of selenium and iodide of silver, and at the other end a second mirror, composed of selenium and chromium. Each mirror is built up of little plates, and the corresponding couples are connected by separate wires. Any object exhibited at the other end could be brought to one's sight by telegraph; for instance, a London physician could see the tongue of a patient in Belfast without leaving his study; an author could read his proofs hundreds of miles off, and by an extra payment could probably send a favorite pen through the wire to correct them. Such is a brief outline of the latest American invention. Were the said wire long enough we would send our hand across the Atlantic to congratulate our *confrère* Dr. Jechs.” We clip the foregoing from the *Medical Press and Circular* of April 28th, which will probably blench on learning the true history of this remarkable invention. Over the *nom de plume* of Dr. H. E. Lix, a bright fellow communicates to the Bethlehem, Pennsylvania, *Journal* an imaginary discovery of the so-called diaphote, writing in the style of the moon hoax. This letter, a mere travesty on a scientific paper, is gravely copied in earnest by New York papers in general, and by the time the new scientific bud has bloomed into the mature flower which we cull from the *Press and Circular* the witty *nom de plume* of the roguish originator has become *Jechs*, and he receives enthusiastic congratulations which will make his heart leap for joy.

— The *London Lancet* says: The ultimate practical purpose of professional journalism is to give those engaged in the daily exercise of the calling represented information which shall be helpful in their labors, and therefore conducive to the public good. What can advantage this cause more than the prompt and rigidly accurate noting of the facts observed, knowledge acquired, and experience gained in actual practice? If busy men will jot down the little points that strike them, in their own way, without waiting to elaborate formal papers, and send them direct to this office, we shall be happy to have them collated and presented in a form available for general information. The amount of clinical and pathological material wasted for want of this saving process must be very considerable. It is practically impossible for the great majority of practitioners to write lengthy reports of their cases. They have neither the leisure nor the inclination to do this. Nor are they always able to make the local societies the medium of communication with the profession, because the reading of a paper necessitates the trouble of first writing it, and then of attending to submit it. There is not opportunity for this performance, and many men shrink from it. Letter-writing is only less troublesome. Our suggestion is that practitioners should simply jot down a note of their observations in any rough fashion that occurs to them, and forward it duly attested. What more may be necessary we will do, in the hope of securing a large mass of valuable material from loss, and securing for patient and persevering observers the professional publicity to which their labors justly entitle them.

— Says the *Medical Times and Gazette*: The occurrence of the Guy's Hospital biennial festival dinner, on Friday, last week, gave "old Guy's men" an opportunity, which they were prompt to seize, of especially expressing their sympathy with the medical and surgical staff in the present circumstances connected with the nursing arrangements. A meeting, which was numerously attended, of former students was held an hour before the dinner, and the following resolution, proposed by Drs. W. F. Cleveland and Arthur Evershed, was carried unanimously: "This meeting, consisting of former students of Guy's Hospital School, desires to express its very warm sympathy with the present members of the medical and surgical staff of the school in the extra anxiety which has been associated with their tenure of office during the past few months, and at the same time to record its conviction that in the hands of the present staff the past preëminence of the School of Guy's Hospital will be most worthily maintained." Such an expression of sympathy and confidence, signed, as it was, by more than a hundred of the old students, gave, of course, great gratification to the medical and surgical staff.

PHILADELPHIA.

— Dr. William Kent Gilbert, coroner of Philadelphia, died recently at his residence, at the corner of Ninth and Pine Streets, after an illness of about a week, of typhoid fever. He was born in Northumberland County, Pa., December 28, 1829, and was a son of David Gilbert, M. D., a professor in the Pennsylvania Medical College. His paternal ancestors came to America from Germany in 1734, and settled in what is now Adams County, Pa., and his mother's ancestors emigrated about the same time from the north of Ireland. He received an academic education, entered the Pennsylvania College at Gettysburg, graduating in September, 1849, and received the degree of M. D. from the Pennsylvania Medical College in 1852.

After serving two years as a resident physician in the Philadelphia (Blockley) Hospital, he commenced the practice of medicine in this city, and continued it until his death.

He was at one period a member of the Board of Guardians of the Poor, and in 1878 was elected coroner on the democratic ticket.

He was a member of the College of Physicians, of the Pennsylvania Historical Society, and served as consulting physician of the hospital committee of the Philadelphia Hospital. He leaves a widow and several children.

Dr. Gilbert spent many years in collecting books, autograph letters, etc., relating to American medical history, his library in these departments being one of the most valuable in the United States. For several years he had been engaged in compiling a history of American Medical Literature and Unpublished Biography.

—"For the week ending June 25th there were eighty-eight deaths from cholera infantum, or sixty-six more than for the corresponding week last year."

MEDICO-LEGAL.

— The Cincinnati *Lancet and Clinic* thinks this a wholesome precedent: "A rather interesting case was decided by Squire Gilligan, of this city, determining the nature of physicians' services. Dr. G. Holdt had brought suit against E. Schmelzer to recover a small amount for professional services. Schmelzer pleaded poverty, and claimed the protection of the exemption law. Herman Marckworth, Dr. Holdt's attorney, claimed that the physician's services came under the head of work and labor performed, and as such was not subject to the exemption law. Squire Gilligan took the same view of the case, and rendered a verdict in favor of the plaintiff."

Miscellany.

SOCIETY FOR THE ADVANCEMENT OF ORAL SCIENCE.

FROM Dr. W. H. Rollins, secretary, we have received the following details of the inauguration of a society for the advancement of oral science, the first and only society of its kind in America:—

Jacob L. Williams, of Boston, believing a medical education necessary for dentists, requested several persons to meet with him to form a society of physicians practicing dentistry.

In response to this call a meeting was held at the house of D. M. Parker, February 20, 1880.

After appointing a chairman and a secretary, it was voted to form a society of orists; this word having been suggested by the secretary to distinguish physicians practicing upon the mouth from dentists having no medical education.

Dr. Joshua Tucker and Dr. Williams said that in the early period of dentistry in Boston each student was required to graduate at a medical school. Dr. Parker remarked that Harvard University had struck the most severe blow to a thorough education for the specialty by creating a dental school, thereby sanctioning a partial education as a sufficient qualification for practice upon the teeth.

The following persons were appointed a committee to form a constitution and by-laws:—

Jacob L. Williams, George T. Moffatt, D. M. Parker, William Herbert Rollins.

At a meeting held in Boston, May 17th, the constitution and by-laws reported by the committee were accepted, and the following officers were elected:—

President, Joshua Tucker; vice-presidents, D. M. Parker, George T. Moffatt; treasurer, Jacob L. Williams; secretary, William Herbert Rollins.

It was voted to send a report of these meetings to the Boston Medical and Surgical Journal.

WILLIAM HERBERT ROLLINS, *Secretary*.

We add the constitution of the new society:—

Preamble: Recognizing that science is the foundation of every art; that in any department of a profession sound opinions and safe practice can only result from knowledge of general principles, this society is formed to promote the application of thorough professional learning to oral practice.

CONSTITUTION. Name: Society for the Advancement of Oral Science.

Article I. Membership: Each member must be a graduate of some medical school approved by the council.

Honorary membership. Persons distinguished in science may be honorary members. If they are practitioners of any department of medicine, they must be graduates of some medical school approved by the council.

Article II. Articles I. or II. of this constitution shall not be altered or abolished.

Article III. Object: The advancement of oral science. The society holds, first, that all special degrees in medicine should be abolished; second, that oral professorships should be established in the medical schools; third, that oral hospitals should be created, in which students should receive instruction during and after their medical course; fourth, that every person practicing any department of medicine should be a graduate of some reputable medical school.

Article IV. Officers: The officers shall be a president, one or more vice-presidents, secretary, and treasurer. They shall be elected annually by a two-thirds vote of the members present.

Council: The president, one vice-president, secretary, treasurer, and one other member, all of whom shall be residents of Boston, shall constitute a council, which shall have charge of the affairs of the society. The president of the society shall be *ex-officio* chairman. In his absence a president *pro tem.* shall be elected. Meetings shall be held quarterly in Boston, unless otherwise ordered.

Article V. Articles III., IV., and V. of this constitution may be altered by a two-thirds vote of the members present, but at least three weeks' notice of the meeting must be sent to each member.

DR. J. MILNER FOTHERGILL ON SPECIALISTS.

DR. J. MILNER FOTHERGILL, of London, in a letter to the *Philadelphia Medical Times*, says: "It is my experience to find that Americans, doctors and others, do not have very definite ideas on the subject of consultants, and, still more, special consultants. Even the leading and best known men in the United States of America are more general practitioners than is the case with leading men here. Talking to an American doctor one day, I casually remarked that I had sent a certain patient to another consultant; he remarked, 'Well, I should not send a patient to another doctor until I had had a good try at him myself.' And it is clear that Americans, when over in Europe, study a whole variety of departments; very rare exceptions studying special subjects, and those only laryngoscopy, ophthalmic and aural surgery. Some devote much attention to diseases of women, and others to diseases of the urinary organs. Nor does it seem that there is any strong tendency toward specialism in the United States of America; that is, men do not work and write so much on diseases of some one system, and stick to that, and that almost only, as is the case here. Here we find a certain set of men who are known in relation to diseases of the nervous system, of whom the best known are Russell Reynolds, C. Bland Ratcliffe, J. Hughlings Jackson, Ferrier, and others; while Bucknill, Hack Tuke, Maudsley, L. Forbes Winslow, and others are consulted rather in cases of mental derangement

than in what are known as diseases of the nervous system not affecting the intellect. Others, again, are known as specialists in diseases of the chest; some rather for lung diseases, others rather for diseases of the heart. A whole host of men are devoted to obstetrics and diseases of women, some going in rather for obstetrics, others for diseases of women. Garrod stands almost alone as an authority on gout. Here the same thing holds good of surgeons, nearly every one now devoting his attention to some special subject, as Sir Henry Thompson, who devotes himself exclusively to diseases of the urinary organs. Indeed, it is now almost essential to success that a man who decides to become a consultant shall devote himself specially to one subject, write articles on it, write a book on it, and have his name known in connection with that subject, so that the general practitioner shall know of him as a specialist in that department, and consult him accordingly. It is the quickest way to become known, and brings in patients without much delay. Then, of course, the growth of special hospitals has largely fostered this attention to special departments; the specialist heads for the special hospital, which welcomes him and is glad to have him as an addition to its staff, while an appointment to a special hospital expedites the specialist's progress towards practice. By such means a number of men readily succeed in the world who in by-past days would have had a long hard struggle, unless they had the good luck to be attached to a general hospital. The staffs of general hospitals hunt in packs; the surgeon calls in his physician colleague, and he again, if required, his obstetric colleague. Of course this is done, more or less, all the world over. Specialists, in order to attempt the same thing, are largely arranged in groups, and so are of mutual advantage to each other. There are men who will poach, but I very much doubt if that pays in the long run. Then, of course, each specialist cultivates the general practitioners who consult him or call him in,—invites them to dinner, and presents them copies of his books."

TWO ATTACKS OF SCARLET FEVER WITHIN SIX MONTHS.

MR. EDITOR,—An epidemic of scarlet fever has prevailed in the city of Providence during the last year. Since the 1st of last January, seven hundred and fifty cases of scarlatina have been reported to the city physician, with two hundred and four deaths up to the 1st day of June. As in any epidemic, every variety of forms of this disease has been exhibited, from the lightest to the most malignant, and including in its mortality even robust adults.

On December 12th of last year, I was called to attend D. P., a young girl of nine years. From her mother I learned that scarlet fever was prevalent in the school she attended, and that among other children her daughter had come home the week before, and had since complained of a violent headache, continued nausea with some vomiting, loss of strength and appetite, sore throat, severe cough, great thirst, much uneasiness at night, with "flighty spells" both day and night. She grew worse, and I was called in one week after the patient was taken sick. I found the little girl with a pulse of 140, temperature 104°, marked prostration, hot and dry skin, and high-colored urine.

Upon examination, the fauces and tonsils were found swollen and inflamed, and the tongue coated. Nothing was revealed on examination of the person. Among other things the mother was directed to give the child a hot mustard bath at bed-time. On my visit the next day, the patient was in about the same condition. Another hot bath at night. On my third visit I discovered a rash on the neck and chest, which had broken out during the night. Rash was not seen on this day on any other parts of the person. This rash was clearly and distinctly scarlatinal in its character, and in due time desquamation took place. After a few days, an indistinct rash appeared over various parts of the body, which became quite evident under the effects of hot baths. This rash was typical of scarlet fever, not of the lobster-red variety so common, but rather resembled numberless particles of red sand or cayenne pepper under a tightly-drawn skin. Exfoliation of the epidermis in these parts of the body also followed after some days, aided by friction from the mother's hands. During these days the tongue presented the well-known "strawberry-like" appearance, so marked in this disease. The rapid pulse, and high temperature persisted for about ten days and then gradually diminished. During this time the inflammation of the fauces, tonsils, and throat was quite painful, attended with much pain in deglutition and swelling of the glands in and about the neck. The patient was unable to swallow solid food for some weeks, and fluids caused much distress by coming up through the nose. A foul discharge, which excoriated the flesh wherever it struck, began from the nose and vagina, and persisted for three weeks. The vaginitis was quite distressing, the discharge profuse and foul, and much pain was caused by passage of the urine. This difficulty was relieved by the mother, by the simple and ingenious plan of pressing a lump of warm mutton tallow against the urethra, which gave the girl temporary relief enough to urinate. Incidentally, I will say that the patient's little sister happened to sit down at bed-time, while in her night-clothes, with her bare skin on a cushion of an old arm-chair used by the patient, and in consequence she suffered from vaginitis, with a foul discharge, for a week. The family cat also had inflammation of the fauces and throat for a week, and the efforts of the poor creature to get relief were amusing to the spectator, if not to the cat. The mother, who attended her child, had a mild sore throat.

Owing to lack of appetite, inability to swallow any solid food, and distress in the use of liquids, swollen tonsils, which finally broke, chronic hoarseness, marked general debility, together with ascites, the convalescence was slow. It was not until nearly three months after being taken sick that she was able to go to school again. For the next ten weeks the little girl enjoyed good health.

On June 8th I was again called to see this same little girl, who had moved a mile away from her former home. From her mother I learned that she had played three days before with a school-mate who was sick with scarlet fever, and that, during the day before my visit, her daughter had returned from school and vomited suddenly several times during the day; that she had complained of a sore throat, was hot and feverish and unable to sleep the night before; and that a bright red rash had broken out on her person. An examination of the person revealed a most perfect lobster-red scarlatinal rash, literally covering the body

from head to foot. The fauces and tonsils were inflamed, and considerable whitish deposit was seen in the back part of the mouth. The pulse was 130, and temperature 101°. Within four days the rash and all other symptoms disappeared, and desquamation, most thorough and complete, followed, and within two weeks the child was at school again. This last attack was a most perfect typical attack of mild scarlatina, and admits of no doubt. The correctness of my first diagnosis might be called into question; and I regret space does not allow me to enter into any differential diagnosis, but simply to sketch the leading points upon which I have based my diagnosis. I have briefly sought to put on record the history of two typical attacks of scarlet fever occurring in the same person within the space of six months: the first, quite severe, with some interesting complications; the second, well marked, but mild, as is usual in secondary attacks.

A. F. BLAISDELL, M. D.

PROVIDENCE, R. I., June 23, 1880.

THE AMERICAN MEDICAL ASSOCIATION.

WE clip the following editorial from the *Philadelphia Medical Times* of June 19th:—

The American Medical Association certainly is a remarkable body, and the last meeting at New York certainly was, in many respects, a red-letter day in its experience. It is also plain that the value of these annual meetings as an advertising medium is beginning to be perceived both within and without the profession. The recognition of their importance by certain New York business firms was most gratifying, and when to such clear perception is united the proverbial enterprise of New York, it is no wonder that the great body gathered together stares and admires, and its members scatter to tell how the convention was bought out and pampered by the nabobs of trade.

Probably to none is this more gratifying than to the editorial staff of this journal. We are especially delighted when the American Medical Association can be given a new usefulness; and it was a proud day when we could see American enterprise bearing this august body in triumph as a trophy of its advertising genius,—belling it, as it were, covering it over with placards, and driving it through the streets of New York and the columns of a thousand newspapers.

If Dame Rumor be not uncommonly untruthful, there was a less open exhibition of canniness, which, though it may not easily be paralleled, may be heartily admired. It is asserted that a member of the committee of arrangements rented a large portion of the available space, so that he might secure room to sublet to the business firms, which, like the foolish virgins, came late, but, unlike the foolish virgins, had an overplus of oil in their — pockets.

It is not, however, solely to commend what has been done, but also to benefit our professional readers, that we have taken pen in hand. We want all our patrons to be upon the level of the shrewdest, and therefore gather up and dispense the latest improvements of the art of success as well as of medicine. It is notably well for John Jones, chiropodist, to have it telegraphed that he read a paper on a highly original, absolutely new, and always successful method of treating incurved toe-nails; judging from the number of titles telegraphed at the expense of the Associated

Press, this fact is sufficiently appreciated by the general profession; but certain individuals, whose professional obscurity is enlightened by a most rare advertising acuteness, have discovered a better thing than this: it is to see the special reporter, — let us say of the *New York Herald*, or the *Chicago Times*, or the *Philadelphia Ledger*. Thus it cometh to pass that after the bare announcement that Professor Sayre, or Jewell, or Pepper read a paper entitled so-and-so, appears a long analysis of the extraordinary article read, amidst great applause, by Dr. Ignotus.

On, then, to Richmond next year; and if we can learn anything further in this line which shall benefit our patrons we will be sure to inform them, for the race seems to be to the knowing.

OVERWORK.¹

WITHIN the last few years a large number of day schools of a high order have been established in most of the larger English towns, and notably in London. These schools are situated for the most part in quarters of the town where they are miles from the open country, where land is worth many thousands of pounds an acre, and where for this reason it is almost impossible to provide play-grounds for the pupils, and *à fortiori* a field for their use is quite out of the question. The girls attending these schools are drawn from the neighborhood, and are consequently placed under much the same condition whether at home or at school. With these unfortunate children (and there must be hundreds of thousands of such in London alone) anything in the shape of active exercise is almost out of the question. They cannot run, for there is nowhere for them to run, it being considered improper for them to indulge in any such exercise in the public street. They are consequently debarred from almost all the old familiar games which those of us who have been born under more auspicious circumstances remember with so much pleasure. Gymnastics are as yet by no means generally adopted as an exercise for girls. Hence a generation is growing up whose physical training is in a great measure confined to a daily walk in the streets, varied in the case of those who fortunately live sufficiently near by an occasional visit to one of the public parks; whilst their practical knowledge of nature is little more than that which can be acquired by people living constantly in a crowd. The evil is a crying and an ever-increasing one. Yet what is to be done? It is impossible to stop the mushroom growth of our great towns; it is almost equally impossible to order the owners of schools to provide adequate play-grounds at a cost of from five to fifteen thousand pounds an acre. To place the schools in the country would render it impossible for the girls to live at home; whilst to send the girls frequently into the country for exercise would involve an expenditure of time, money, and energy which would be quite out of the question in most of our smaller middle-class households. One remedy suggests itself which will, to a very considerable extent, mitigate the evil, so far as muscular exercise is concerned, in the general adoption of gymnastics for all girls living under these conditions. Gymnastics, it is true, cannot make up for the absence of active exertion in the pure air,

and amidst the delightful surroundings of the country; but where it is impossible to attain these, gymnastics come in, as the next best remedy. I have said that up to the present time gymnastics are by no means generally adopted as an exercise for girls. It would be unfair, however, not to mention that for thirty years past classes for ladies, which have been numerous attended, have been held at gymnasia established in various parts of London by an Italian gymnast named Chiosso; that ladies classes are held with great success at a large German gymnasium in London; and, as the latest step in the right direction, that an excellently appointed gymnasium, with systematic teaching in gymnastics, has been added to one of the largest middle-class schools for girls in London. Here, then, we find a remedy for one of the evils to which I called attention. The evil resulting from the effects of mental work on a frame weakened by bad home surroundings can probably be met by the institution of a system of careful medical inspection in connection with our schools. Were each large school to be provided with a medical inspector who should keep a general oversight of all the girls, it would soon be found which are the girls that require special care. For such girls special arrangements should be made. The present uniformity of discipline for all girls should be broken down; the strong should be allowed to put out their strength, but the weakly should be kept well in hand. Were such an inspector to be appointed it would often be possible to detect the causes leading to weak health far sooner than is now generally the case; and many a girl who is now allowed to go on until she breaks down would be saved a long period of ill-health. Hints could be given to parents, which they would otherwise not receive until too late to remedy evils; and altogether, provided the inspector did his work honestly and intelligently, the gain in various directions would be great. I may add that the large school to which I have referred as having established a gymnasium has also recently appointed a medical inspector, who is in this instance very appropriately a lady; and at the debate at the Social Science Association it was recognized by many of those who spoke on behalf of the large schools that such a plan is highly desirable for general adoption.

MR. EDITOR, — In the account that you give of my paper read before the American Medical Association, I am made to say that "the fresh gastric mucous membrane was cooled by gypsum, allowed to harden, and then peeled off and ground up, ready to be dispensed to any one who would take it, or sold to any one who would buy it," not one word of which is correct. For I simply suggested gypsum as a means to dehydrate or rapidly dry up the slimy mucous and glandular secretions that are obtained when we scrape the interior of the fresh stomach, and instead of giving such crude material proposed that the pepsin should be dissolved out, when needed, by water, leaving the insoluble or nearly insoluble sulphate of lime behind. I also expressed no opinion as to its keeping qualities, as reported in some of the journals, but stated I was now about to test that question. Hoping you will give this as wide publicity as your former statement, I am respectfully yours,

J. R. UHLER, M. D.

234 WEST FAYETTE STREET,
BALTIMORE, MD., June 16, 1880.

¹ Concluded from page 620 of vol. cii.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 19, 1880.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	707	386	32.67	22.91	10.32	4.38	1.13
Philadelphia.....	901,380	335	155	6.87	—	2.99	2.69	1.19
Brooklyn.....	564,400	227	124	34.36	22.91	10.13	7.49	.88
Chicago.....	—	168	102	31.93	17.86	7.14	8.33	2.97
St. Louis.....	—	189	117	34.92	26.46	4.23	.53	—
Baltimore.....	393,796	216	133	40.74	28.70	.93	2.31	5.56
Boston.....	365,000	124	43	16.13	4.03	8.06	9.68	—
Cincinnati.....	280,000	145	101	35.17	24.14	6.21	.69	2.07
New Orleans.....	210,000	114	48	32.46	18.42	7.02	.88	—
District of Columbia.....	170,000	106	64	28.30	22.64	6.60	1.87	—
Buffalo.....	—	50	17	8.00	2.00	8.00	2.00	4.00
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	85	51	48.24	25.88	3.53	3.53	2.35
Milwaukee.....	127,000	38	18	18.42	2.63	15.79	7.89	2.63
Providence.....	101,500	34	15	26.47	8.82	16.70	3.34	16.70
New Haven.....	60,000	19	6	26.32	10.53	10.53	5.26	—
Charleston.....	57,000	46	23	15.22	15.22	4.35	—	—
Nashville.....	37,000	33	17	54.55	39.39	6.06	—	3.03
Lowell.....	54,000	11	3	—	—	9.09	—	—
Worcester.....	53,000	18	9	16.67	11.11	11.11	5.56	—
Cambridge.....	50,400	18	7	5.56	—	11.11	5.56	—
Fall River.....	49,000	18	3	16.67	11.11	11.11	—	—
Lawrence.....	38,600	12	6	33.33	16.67	—	—	—
Lynn.....	34,000	9	3	11.11	—	11.11	11.11	—
Springfield.....	31,800	—	—	—	—	—	—	—
New Bedford.....	27,200	9	2	11.11	—	11.11	11.11	—
Salem.....	26,500	10	8	40.00	10.00	—	20.00	—
Somerville.....	23,500	5	1	—	—	—	—	—
Chelsea.....	21,000	9	4	33.33	11.11	11.11	22.22	—
Taunton.....	20,200	0	—	—	—	—	—	—
Holyoke.....	18,400	—	—	—	—	—	—	—
Gloucester.....	17,300	4	—	—	—	—	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	4	—	—	25.00	—	—	—
Newburyport.....	13,500	6	3	16.67	—	16.67	—	16.67
Fitchburg.....	12,600	3	—	33.33	—	—	—	33.33
Sixteen Massachusetts towns.....	129,960	29	8	13.80	—	6.90	6.90	—

Deaths reported 2801; 1477 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 798, diarrhoeal diseases 498, consumption 339, lung diseases 200, diphtheria and croup 112, scarlet fever 47, measles 44, malarial fevers 31, whooping-cough 24, typhoid fever 21, cerebro-spinal meningitis nine, erysipelas eight, small-pox four. From *measles*, Cincinnati 10, St. Louis, New Orleans, and Pittsburgh seven, New York five, Brooklyn four, Chicago, Baltimore, Salem, and Chicopee one. From *malarial fevers*, New York eight, New Orleans six, Philadelphia and St. Louis four, District of Columbia three, Brooklyn and Baltimore two, Milwaukee and New Haven one. From *whooping-cough*, New York eight, Baltimore five, Pittsburgh and Nashville three, Brooklyn, Chicago, Cincinnati, New Orleans, and New Haven one. From *typhoid fever*, Philadelphia and Pittsburgh four, New York, and Boston two, Chicago, St. Louis, Baltimore, New Orleans, District of Columbia, Milwaukee, Nashville, Lawrence, and Chicopee one. From *cerebro-spinal meningitis*, St. Louis three, New York two, Philadelphia, Chicago, Cincinnati, and Fall River one. From *erysipelas*, New York five, Chicago, Boston, and Lawrence one. From *small-pox*, Chicago three, Philadelphia one.

Forty-seven cases of measles, 24 of diphtheria, 20 of scarlet fever, one of whooping-cough, and one of typhoid fever were reported in Brooklyn; small-pox six, in Chicago; scarlet fever 11, diphtheria nine, in Milwaukee; typhoid fever seven, scarlet fever six, measles four, diphtheria two, whooping-cough one, in Providence; scarlet fever two, diphtheria two, in New Bedford.

Total number of deaths increased. Number of deaths under five years of age large; deaths from diarrhoeal diseases increased, especially in New York. In 32 cities and towns of Massachusetts, with an estimated population of 951,110 (population of the State about 1,690,000), the total death-rate for

the week was 15.89 against 17.64 and 16.30 for the previous two weeks.

For the week ending May 29th, in 148 German cities and towns, with an estimated population of 7,721,346, the death-rate was 30.6 against 28.1 and 28.3 for the previous two weeks. Deaths reported 5541; 2408 under five; pulmonary consumption 562; acute diseases of the respiratory organs 439, diphtheria and croup 150, measles and *röteln* 99, scarlet fever 87, typhoid fever 66, whooping-cough 56, puerperal fever 17, typhus fever (Königsberg, Thorn four, Beuthen, Ratibor, Dresden, Berlin, Magdeburg, Braunschweig three) 13, small-pox (Beuthen four, Görlitz) five. The death-rates ranged from 13.5 in Kiel to 64.6 in Chemnitz; Königsberg 37; Breslau 30.9; Munich 47.1; Dresden 30.3; Berlin 33.5; Leipzig 22.1; Hamburg 29.2; Hanover 19; Bremen 25.8; Cologne 25.7; Frankfurt 26.4; Strasburg 29.7. For the same week Vienna 30.8; Paris 29.2.

For the week ending June 5th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 19.4. Deaths reported 2787; acute diseases of the respiratory organs 191, whooping-cough 114, scarlet fever 110, measles 88, diarrhoea 42, fever 36, diphtheria 13, small-pox (all in London) eight. The death-rates ranged from 14 in Portsmouth and Bradford to 24 in Liverpool; London 19; Bristol 19; Birmingham 17; Manchester 23. In Edinburgh 20, Glasgow 21, Dublin 38.

In the 20 chief towns in Switzerland, population 445,790, there were 25 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 13, diphtheria and croup five, typhoid fever two, scarlet fever three, whooping-cough one, measles one, small-pox one. Death-rate of Geneva 18.4; of Zurich 25.5; Basle 27.6; Berne 34.4.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
June 13	29.509	73	83	64	70	49	80	66	NW	W	SW	7	6	16	F	C	C	—	—
" 14	29.736	63	75	59	61	46	67	53	NW	N	SW	7	11	2	F	O	O	—	.02
" 15	29.920	63	71	57	78	53	61	65	Calm.	E	Calm.	0	10	0	O	F	O	—	.16
" 16	30.003	65	80	55	69	40	71	60	Calm.	SE	SW	0	6	11	H	F	F	—	—
" 17	30.136	66	72	54	77	60	74	70	N	E	SW	4	3	3	F	F	F	—	—
" 18	30.235	67	81	59	67	67	54	63	Calm.	E	S	0	5	7	C	C	C	—	—
" 19	30.189	70	88	58	69	39	74	60	W	E	SW	6	5	5	C	C	F	—	—
Week.	29.961	67	88	54				64										1.53	0.18

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 26, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zy-motic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	1038	713	49.32	42.38	6.74	3.46	.48
Philadelphia.....	901,380	427	219	6.32	—	2.34	2.34	1.40
Brooklyn.....	564,400	414	289	50.00	40.33	7.24	3.86	1.20
Chicago.....	—	268	181	50.74	32.46	6.71	9.32	2.23
St. Louis.....	—	177	113	35.03	27.68	1.69	—	1.14
Baltimore.....	393,796	245	141	44.49	33.06	2.06	1.63	3.67
Boston.....	365,000	126	47	15.87	7.93	7.93	3.96	—
Cincinnati.....	280,000	109	76	46.78	36.60	2.75	2.75	.91
New Orleans.....	210,000	115	50	27.82	13.91	3.47	.87	1.73
District of Columbia.....	170,000	117	71	33.33	29.91	5.12	.85	—
Buffalo.....	—	44	19	18.18	11.36	2.27	4.54	2.24
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	82	62	52.44	34.14	14.63	6.09	4.88
Milwaukee.....	127,000	42	26	30.95	7.14	11.90	4.76	2.38
Providence.....	102,000	26	9	19.23	3.46	6.92	3.46	7.69
New Haven.....	60,000	28	12	32.14	17.85	7.14	—	—
Charleston.....	57,000	32	16	6.25	3.12	6.25	—	—
Nashville.....	37,000	32	16	46.87	18.93	3.12	—	—
Lowell.....	54,000	28	12	17.85	14.28	10.71	—	—
Worcester.....	53,000	20	7	35.00	25.00	10.00	—	5.00
Cambridge.....	50,400	16	2	12.50	6.25	6.25	—	—
Fall River.....	49,000	28	7	28.57	10.71	—	—	—
Lawrence.....	38,600	17	7	11.76	5.92	29.60	—	—
Lynn.....	34,000	10	3	20.00	20.00	20.00	10.00	—
Springfield.....	31,800	15	—	33.33	—	—	33.33	—
New Bedford.....	27,200	12	6	33.33	8.33	8.33	16.66	—
Salem.....	26,500	19	7	42.10	—	5.26	15.78	—
Somerville.....	23,500	4	2	25.00	25.00	25.00	—	—
Chelsea.....	21,000	5	1	40.00	—	—	20.00	—
Taunton.....	20,200	11	4	9.09	—	9.09	9.09	—
Holyoke.....	18,400	—	—	—	—	—	—	—
Gloucester.....	17,300	10	4	10.00	—	10.00	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	8	—	25.00	—	12.50	12.50	—
Newburyport.....	13,500	4	1	—	—	—	—	—
Fitchburg.....	12,600	7	—	14.28	14.28	14.28	—	—
Sixteen Massachusetts towns.....	120,910	33	6	9.09	3.03	9.09	3.03	—

Deaths reported, 3569; 2129 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1343, diarrhoeal diseases 992, consumption 369, lung diseases 197, diphtheria and croup 126, scarlet fever 45, typhoid fever 41, malarial fevers 37, whooping-cough 34, measles 33, cerebro-spinal meningitis 15, erysipelas 12, small-pox eight. From typhoid fever, Baltimore eight, Philadelphia six, New York and Chicago four, Brooklyn and St. Louis three, Boston and Nashville two, New Orleans, Pittsburgh, Milwaukee, Providence,

Worcester, Fall River, Lynn, Haverhill, and Clinton one. From malarial fevers, New York nine, New Orleans six, Brooklyn five, St. Louis and New Haven three, Chicago, District of Columbia, and Milwaukee two, Charleston, Fall River, and Salem one. From whooping-cough, Nashville seven, Baltimore five, New York four, Brooklyn, Chicago, and St. Louis three, Milwaukee two, Philadelphia, Boston, New Orleans, District of Columbia, Pittsburgh, New Haven, and Gloucester one. From measles, New York and Cincinnati seven, Brooklyn five, New Orleans and Pittsburgh four, Milwaukee and Salem two, St.

Louis and Lawrence one. From *cerebro-spinal meningitis*, New York four, Chicago and Fall River three, Philadelphia, Lowell, Cambridge, Salem, and Chelsea one. From *erysipelas*, New York and Brooklyn three, Boston two, Philadelphia, St. Louis, New Orleans, and New Bedford one. From *small-pox*, Chicago six, Philadelphia two.

Twenty-five cases of diphtheria, 21 of scarlet fever, 14 of measles, one of whooping-cough, and one of typhoid fever were reported in Brooklyn; two of small-pox in Chicago; diphtheria 31, scarlet fever eight, in Boston; diphtheria six, scarlet fever three, in Milwaukee; scarlet fever 13, diphtheria four, measles three, typhoid fever two, whooping-cough one, in Providence; diphtheria three in Cambridge; scarlet fever 12, diphtheria two, in New Bedford.

Total number of deaths increased nearly fifty per cent. above the average; deaths under five doubled; deaths from diarrhoeal diseases very large, 607 out of a total of 992 being in New York and Brooklyn, New York alone furnishing 440. In 33 cities and towns of Massachusetts, with an estimated population of 973,860 (population of the State about 1,690,000), the total death-rate for the week was 20 against 15.89 and 17.64 for the previous two weeks.

For the week ending June 5th, in 149 German cities and towns, with an estimated population of 7,606,406, the death-rate was 27.7. Deaths reported, 5550; 2065 under five: pulmonary consumption 537, acute diseases of the respiratory organs 402,

diphtheria and croup 104, scarlet fever 101; measles and *rötheln* 97, whooping-cough 57, typhoid fever 54, puerperal fever 26, small-pox (Thorun, Königshutte, Landsberg, Schweidnitz four, Görlitz two, Elberfeld) 11, typhus fever (Posen, Braunschweig, Dortmund three. The death-rates ranged from 12.9 in Wiesbaden to 41.6 in Munich; Königsberg 28.1; Breslau 29; Dresden 24.3; Berlin 33; Leipzig 21.1; Hamburg 23.5; Hanover 22.3; Bremen 22.4; Cologne 23.9; Frankfurt 26.8. For the same week, Vienna 28.3; Paris 26.6.

For the week ending June 12th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 19.2. Deaths reported, 2765: acute diseases of the respiratory organs 230, scarlet fever 131, whooping-cough 105, measles 74, diarrhoea 43, diphtheria 11, small-pox (all but one in London) 11. The death-rates ranged from 13 in Brighton to 27 in Liverpool; London 18.4; Bristol 24; Birmingham 15; Manchester 23. In Edinburgh 24, Glasgow 26, Dublin 42. In the 20 chief towns in Switzerland for the week ending June 12th, population 445,790, there were 27 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 24, diphtheria and croup 11, measles seven, scarlet fever seven, whooping-cough two, typhoid fever two, small-pox one. Death-rate of Geneva 25.1; of Zurich 36.7; Basle 26.5; Bern 20.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
June 20	29.989	73	90	60	73	25	66	55	W	W	0	5	11	0	C	F	F	—	.01
" 21	29.757	71	84	61	70	57	46	58	W	W	NW	7	12	12	T	O	F	—	.01
" 22	29.806	64	71	55	61	33	68	54	W	NW	NW	9	23	7	C	F	C	—	—
" 23	29.900	69	78	56	61	34	53	49	NW	NW	0	7	17	0	C	T	O	—	—
" 24	29.852	73	90	63	58	50	71	60	0	E	E	0	1	4	F	F	C	—	—
" 25	29.861	77	92	66	68	71	52	64	0	E	SW	0	5	9	F	F	F	—	—
" 26	29.851	80	90	71	81	47	55	61	W	W	SW	1	16	4	O	F	F	—	.01
Week.	29.859	72	92	55				57										0.40	0.03

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES, APRIL 1, 1880, TO JUNE 30, 1880.

BAILHACHE, P. H., surgeon. Detailed as chairman of board for the physical examination of officers of the revenue marine service. April 28, 1880.

Detailed as chairman of board for the physical examination of candidates for appointment as cadets in the revenue marine service. May 21, 1880.

Detailed as medical officer revenue bark Chase during practice cruise. June 1, 1880.

MILLER, T. W., surgeon. Detailed as chairman board of examiners to convene in New York June 21, 1880. June 4, 1880.

LONG, W. H., surgeon. Granted leave of absence for ten days from April 16, 1880. April 14, 1880.

Detailed as member of board to select a site for a marine hospital at Memphis, Tennessee. May 12, 1880.

FESSENDEN, C. S. D., surgeon. Detailed member board of examiners to convene in New York June 21, 1880. June 4, 1880.

Granted leave of absence for eight days from June 13, 1880. June 9, 1880.

SAWTELLE, H. W., surgeon. Detailed as recorder of board to select a site for a marine hospital at Memphis, Tennessee. May 12, 1880.

DOERING, E. J., surgeon. Detailed as recorder board of examiners to convene at New York June 21, 1880. June 4, 1880.

FISHER, J. C., passed assistant surgeon. Granted leave of absence for thirty days from May 6, 1880. April 21, 1880.

Detailed as recorder of board for the physical examination of officers of the revenue marine service. April 28, 1880.

GODFREY, JOHN, assistant surgeon. To report to board of examiners for examination for promotion. June 4, 1880.

BROWN, F. H., assistant surgeon. To act as inspector of un-serviceable hospital property at Boston, Mass. April 13, 1880.

To report to board of examiners for examination for promotion. June 4, 1880.

GOLDSBOROUGH, C. B., assistant surgeon. Detailed as recorder of board for the physical examination of candidates for appointment as cadets in the revenue marine service. May 21, 1880.

KEYES, H. M., assistant surgeon. To act as inspector of un-serviceable hospital property at St. Louis, Mo. April 13, 1880.

MEAD, F. W., assistant surgeon. To act as inspector of un-serviceable hospital property at San Francisco, Cal. April 19, 1880.

PORTER, F. D., assistant surgeon. Granted leave of absence for fourteen days from July 2, 1880. June 29, 1880.

PROMOTION. FISHER, J. C., passed assistant surgeon. Promoted to be passed assistant surgeon. April 2, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 26, 1880, TO JULY 2, 1880.

BREWER, J. W., captain and assistant surgeon. His leave of absence on account of sickness further extended three months on surgeon's certificate of disability. S. O. 142, A. G. O., June 28, 1880.

DE LOFFRE, A. A., captain and assistant surgeon. Relieved from duty in Department of the South and assigned to duty in Department of the Missouri. S. O. 137, A. G. O., June 22, 1880.

Lectures.**II. THE PATHOLOGY OF INSANITY.**A LECTURE DELIVERED BEFORE THE GRADUATING CLASS OF THE HARVARD MEDICAL SCHOOL.¹

BY CHARLES F. FOLSOM, M. D.

INSANITY is chiefly indicated in an individual not so much by any particular extravagance of action, thought, or feeling, which in many instances may be natural, as by a departure from his ordinary habits of thinking, feeling, and acting, without any sufficient external cause. Some men's ordinary habits resemble the behavior of the insane, and, on the other hand, many a confirmed monomaniac, by carefully abstaining from any indication of his hallucination or delusion, can for a time appear like a rational and sane man, a well-known case being that of a patient ordered to be discharged from the Bicêtre as entirely recovered, and who yet would not sign to his papers giving him his liberty any other name than Jesus Christ. He had concealed his delusion long enough to persuade the commission of his sanity, but would not let the fact stand against him in writing that he was any other person than Christ, whom he claimed to be. Insanity is the symptom of a disease which observes the same pathological laws as other diseases. Notwithstanding the air of mystery which ignorance and superstition have thrown around it, insanity cannot be said to present anything really strange or peculiar. It follows the same course of incubation, development, and termination in cure, death, or chronicity as other diseases, sometimes lying dormant for months or even years, obscure to others, and unsuspected by the patient himself; at other times suddenly breaking out with little warning of its approach; and again, after being repeatedly warded off by precautions and remedies, finally establishing itself in its clearest forms, just as pulmonary consumption, for instance, sometimes begins its ravages so slowly and insidiously as to be perceptible only to the most practiced observer, while many of the mental diseases are like typhoid fever and pneumonia, self-limited, and pursue a tolerably definite course.

Every type of insanity does not, in its initial stage, present to the eye a deviation from the normal structure of the brain, and the patient may die before such pathological changes appear that we can detect them. But if the disease has been of long standing, and if death has supervened from the constitutional disturbances produced by it, it will be very rarely that some morbid appearances, if carefully looked for, will not be found, more or less indicative of the disordered mental condition. Again, the disease underlying the insanity may be sufficient to produce death, directly or indirectly, and yet, as in general paralysis of the insane, for instance, there may be found in the brain no indication to the naked eye of any deviation from a healthy condition, although a microscopic examination might reveal the most marked signs of advanced cerebral disease. In the vast majority of cases of insanity the brain does show evident marks of disease even in early stages. And when we bear in mind the limited knowledge of the cerebral structure which pathologists have possessed until very lately, or even up to the

present time, and the consequent difficulty in detecting changes from the healthy state, it may well be conceded that the absence of these changes is attributable, in not a few instances, to the fault of the investigator rather than to the nature of the disease. Certain it is that the better acquainted we have become with the anatomy of the brain and with its functions and sensible qualities, and the more thorough and painstaking we have been in our examinations, the rarer it has become to find a case of insanity where no organic changes are observed after death. It is true that we do not as yet understand in all, or indeed in any, cases the exact relation between the morbid conditions observed after death and the symptoms during life, but that fact was for a long time true of diseases the pathology of which we now quite understand. A large abscess of the brain, a hæmorrhage or local inflammation, a tumor or a wound of the cortex or other portion of the brain, is sometimes followed by insanity, and sometimes not; and we do not yet understand the reason for the difference. Indeed, nearly every pathological condition of the brain known in insanity, in kind if not in extent and degree, may be found in a diseased or injured brain where there has been no mental disease in consequence. It is largely due to our limited knowledge of insanity that we cannot more accurately define and classify the diseases giving rise to it.

In 261 autopsies of the insane, Pinel found only 68 diseased brains; in 277, Esquirol, 77; in 100, Chiarugi, 95; in 160, Parchappe, 152; in 72, Webster, 72; in 171 in the Vienna Asylum, 152; in 318 in the Prague Hospital for the Insane, 288. There is only one disease, general paralysis of the insane, in which the morbid appearances discoverable after death, with our present knowledge, bear a definite relation to most (not all) of the manifestations during life; and even in that disease, if with prominent tabic symptoms, the morbid anatomy of the spinal cord is identical with that observed in posterior spinal sclerosis (progressive locomotor ataxia), the one disease being now and then mistaken for the other. Still, it is not impossible that our knowledge will widen in the near future, so that we can not only identify after death, but also diagnosticate during life, the exact pathological changes to which all of the various forms of insanity are due. It may therefore be profitable briefly to enumerate what the changes are which are found in the brains of the insane; although, as I have already said, given the corpse only of a person who had died in an early stage of mental disease, there are only a few cases where, even with the aid of the microscope, we could be sure, from the morbid appearances alone, whether insanity was present during life or not, and, if so, of what form, even where pathological changes are clearly found. That is to say, when we have discovered and described all the morbid appearances in the brain of an insane person, we have taken only the first step in accounting for his insanity; the next will follow after we have learned the physiology and pathology of thought, will, passions, and emotions.

First, however, before proceeding to a consideration of the morbid anatomy, let us briefly review the evidence as to the functions of the brain,² so far as the mind is concerned. It has been shown clearly by experiment on monkeys that electrical excitement of the

¹ Read also before the Boston Society for Medical Observation, June 21, 1880.

² Illustrated by Charcot's and Foville's plates.

cortex of the brain in the so-called psychomotor tract, the central and upper portions, including parts of the anterior and parietal lobes, produces movement in certain muscles, and that destruction of the corresponding tract in the cortex produces paralysis of the muscles contracted in the former experiment. In man, a few cases are reported where amputations and paralysis of the limbs in question have been followed by atrophy of the tracts or centres for these muscles, and in corroboration of the experiments with animals; vigorous movement of the muscles produces local elevation of temperature in their respective centres, and destructive diseases cause, each for its corresponding muscles, more or less permanent paralysis. From experiments on monkeys and a few observed cases of disease or injury in man, it is thought by Ferrier that the anterior convolution of the frontal lobe is not a motor centre, but serves more particularly the function of moral and to a less extent intellectual power, parts of the sphenoidal and occipital lobes being centres of sensation. The visual centre is thought by Ferrier to be in the gyrus angularis, by Munk to be in the occipital lobe; and the various forms of aphasia are in the vast majority of cases associated with lesion in the vicinity of the island of Reil, on the left side.

It is found that diseases impairing the mind do not produce paralysis necessarily, and conversely. It is also true that one half of the cerebrum preserved intellectual activity is often still normal except in power, large portions of the other half being diseased. The motor functions of the cortex explain some epileptic convulsions, and the brains of idiots are microcephalic so far as the cerebrum and convolutions are concerned; the cerebellum is not changed. If we examine a highly magnified section of the cortex of the brain, we shall find that the large cells of the third and fourth layers are most abundant in the psychomotor tract and quite absent in the cerebellum. All efforts to localize the intellectual and moral functions of the brain have thus far failed of success, the most careful observers still thinking that local lesions, when apparently causing insanity, do so by injuring the action of the brain as a whole, and not of any particular part.

To return to the morbid anatomy of insanity, in chronic cases of quiet, delusional insanity, with never anything like acute or subacute disease, and where death occurs from the weakness of old age or some intercurrent disease, we cannot detect any difference between their brains and those of sane people whose brains have worn out with their bodies. This class is comparatively small, and every year decreases under the investigations of thorough workers.

The most important and constant changes are in the cortex of the brain, especially in the fore, upper, and middle parts of the periphery, involving also the membranes. Surgeons, too, have found that wounds in this region oftener result in insanity than if in other parts of the brain. Virchow has observed that local inflammatory troubles (pachy-meningitis fibrinosa) in this portion of the brain are not very infrequent during pregnancy, and thinks the morbid ideas so common among women at that time may be thus at least partially explained. In the early stages of insanity, the pathological changes are often due to impaired nutrition or disordered circulation; anæmia and hyperæmia of the brain are exceedingly common, the hyperæmia being generally limited to the membranes and the cortex, or its superficial layer. The anæmia of the brain

during convalescence from severe acute diseases, especially typhoid fever and scarlet fever, is not infrequently the probable immediate cause of insanity; and in acute mania the pathological changes in the cortex and ganglionic cells are probably as nearly identical with those in the acute stage of pneumonia, certain forms of typhoid fever, cerebro-spinal meningitis, and other diseases, as the symptoms of the mania are now and then difficult to differentiate from those of the other diseases just mentioned. Traube has described a form of typhoid fever so like mania that one of the professors in the university at Berlin was committed to the insane asylum, after a full consultation, while suffering from it. The period of incubation, however, is not so marked in mania, the temperature is lower, abdomen not distended, and the delirium is more constant day and night. Cerebro-spinal meningitis, and occasionally pneumonia are also mistaken for insanity. During the presence of the acute symptoms in these and other diseases, a positive diagnosis must often be deferred until the continuation or cessation of the mental symptoms renders a correct judgment of the case possible. In insanity following acute disease or due to it, there is commonly an interval of clearness before the outbreak of the insanity, and after the delirium from the former has ceased. In rheumatic families, the disease occasionally affects the fibrous tissue enveloping the brain, either alone, or after subsidence of the inflammation in other parts of the body. The differential diagnosis in all these cases is quite important, in order to prevent sending people to insane asylums unnecessarily.

Functional or chronic degenerative disease of the walls of the arteries with hæmorrhages and capillary aneurisms, is very often found; irregularities in the skull both in shape and size; changes of nutrition or pressure from thickening of the skull; syphilitic and other osteophytes, especially in more or less demented epileptics; early synostosis of sutures or compression of the skull by artificial means; thickening, adhesions, and purulent inflammation of the dura mater.¹ Congestion, thickening, cloudiness, and hypertrophy of the arachnoid are very common, with not infrequent hæmorrhage and formation of pseudo-membrane or serous effusion in the sac. The ependyma of the ventricles is often somewhat thickened and granular in chronic cases. The size of the brain is sometimes increased, owing to hypertrophic conditions, particularly in epilepsy, but far oftener there is general atrophy with enlargement of the ventricles dependent upon long-standing disease. General dropsy is sometimes found in old cases, or when patients die in the acute stage with violent excitement, and is probably not infrequent. Sclerosis of the white substance, with fatty and granular degeneration of the nerve cells and fibres, is universally found in paralytic dementia: recent investigations show a possible relation of syphilis to the disease. Cancers of the brain, parasites, syphilitic and other tumors and tubercles, are now and then found in autopsies in insane asylums. The early symptoms referable to them, however, are more commonly convulsions and paralysis, so that they are oftener observed in general hospitals. When insanity is due to tumors of the brain it is usually the deepest melancholy or violent mania, persisting until death, the complete destruction of the mental faculties generally being a late symptom. The temperature of demented (taken in the axilla) is a trifle below that of sane people; of all the other insane, the average is

¹ The latter also occurring perhaps as often in those not insane.

not far from a degree higher, according to Dr. Clouston's records of two thousand cases, the extreme being found in general paralytics with an elevation above the normal sometimes, after a fresh convulsive attack, of even 5° F.

Congenital defects also doubtless have a great influence in the production of insanity. Of all infants born in various countries, from one fifth to one fourth die in the first year of life, and very largely from want of complete development of the respiratory, circulatory, or cerebro-spinal systems. A large number must reach maturity with this defective development still seriously deranging the action of heart, lungs, or brain. Unlike the organs whose deformities are readily perceived by our unaided senses, — as, for instance, club-foot, — the brain is out of sight, however, and can only manifest its deficiency by mental or moral obliquity, incapacity, drunkenness, pauperism, crime, or predisposition to actual insanity. In any of these suspected cases, if careful search reveals an incompletely developed ear, or finger, or other member, in any part of the body, there would be some reason for suspecting a similar deficiency in the brain, and for questioning how far sanity and full responsibility exist. If the manifestation is periodic and beyond the control of the will, like dipsomania, there is almost certainly a morbid condition of the brain.

If asked whether there is a fixed lesion of the brain or any of its parts corresponding to given psychological changes, we should be obliged to say No, except in the case of incurable dementia. If asked whether there are important morbid changes corresponding with all cases of insanity, we can say Yes, always, except that in some of the milder forms of delusional insanity we have not yet discovered any. There are certain lesions which invariably cause marked deterioration of the mind. These are, general inflammation of the cortex of both hemispheres, general meningitis in the convexity of the hemispheres, marked and general oedema of the brain, general atrophy, extensive thickening and granulations in the *ependyma* of the ventricles.

As regards diseases of other organs than the brain, the insane, like the sane, die of all of them, and in especially large numbers of pulmonary consumption. Very painful affections, and some not causing pain, of the abdominal and pelvic cavities, especially in women, seem at times to be the sources of delusions, and the constant irritation of the corresponding motor centres in the brain is now and then the apparent source of insanity.

To summarize the relations of pathological changes to insanity, we have the following conclusions:—

(1.) Insanity may, both in its acute and chronic form, be the result of simple anomalous excitation or nutrition of the brain without any noticeable change in its appearance.

(2.) Generally, however, it consists in recognizable diseased conditions, which become more manifest the longer the duration of the disease. These are in the majority of cases hyperæmic, anæmic, and inflammatory processes, which appear first for the most part in the *pia mater* and cortex of the brain, extend to various depths of the cortex and of the medullary portion, and end either in resolution and cure or in incurable destruction of the brain tissue and more or less general atrophy of the brain, with the corresponding symptoms of partial or complete loss of mental power and intelligence.

(3.) Non-inflammatory changes in nutrition also are very common, and these are recognized only in their late stages, ending in atrophy of the brain, which corresponds to an advanced period of the disease; in their early and developmental stages they are still not yet made out.

(4.) In the functional mental diseases there is no lesion of the brain as yet recognizable, except in the latest stages, and then the changes may be no more than are to be found in the brains of persons dying simply of old age.

(5.) The organic mental diseases are associated with diffuse, as opposed to localized, lesions of the brain, chiefly of the cortex.

(6.) In insanity arising from marked organic disease of the brain, syphilis, general paralysis of the insane, tumors, etc., the morbid changes are very marked, but not confined to one region.

(7.) There is, as yet, no evidence to indicate any localization of the intellectual functions of the brain farther than that they belong, without much doubt, to the cortex. When apparently local injuries or disease cause insanity, they probably do so only through a general disturbance of the brain, or through diffuse disease resulting therefrom, and for the most part affecting both hemispheres.

(8.) The molecular changes in the cortical ganglionic cells, which give rise to insanity, and their relation to the grosser pathological conditions of the brain just enumerated are still not clearly made out.

Original Articles.

TEN CASES OF LITHOLAPAXY.

BY WILLIAM WARREN GREENE, M. D.,

Professor of Surgery in the Medical School of Maine; Surgeon to the Maine General Hospital.

THE operation for complete removal of calculi from the bladder by crushing and evacuation at one sitting, prolonged, if need be, for several hours, has already been thoroughly brought to the notice of the profession. The instruments have been described, and the different steps of the process carefully defined. The remarkable tolerance of instrumentation of even a diseased bladder, once believed to be rarely exceptional, has proved to be the very general rule, and the facility and safety with which large tubes and other instruments can be passed *per urethram*, for some time known to a few, are now within the knowledge of all surgeons.

Not only has the practicability of thus, at a single trial, removing large stones, even, been demonstrated, but, what is much better, the comparative safety of the operation has been established. So that, among adults, in a large majority of patients afflicted with stone, this method properly takes the place of lithotomy, as less formidable to contemplate and less dangerous to undergo.

The marked improvements in lithotrites and evacuating apparatus, as compared with Clover's, Thompson's and others, and the demonstration of the practical and safe working of the new plan certainly warrants its author in christening it with the very appropriate name of litholapaxy. In perfecting this operation and publishing its details and results, Prof. Henry J. Bigelow has rendered solid service to the profession, and, through its members, to a large class of sufferers.

For it he deserves hearty congratulation and unstinted praise.

Although every one conversant with the current surgical literature is familiar with litholapaxy theoretically, and quite a number of cases have been reported in the journals, yet the statistics of the operation are at present too meagre for satisfactory or accurate conclusions with regard to many points, and the publication of all new cases is very desirable. It is therefore merely to give additional testimony with reference to the new method of dealing with vesical calculus that I offer the following report:—

CASE I. John A., Scotch, aged fifty-two, farmer. Had suffered from the ordinary symptoms of stone for four or five years. Had passed "gravel stones" at different times. Urine alkaline, and contained a large amount of muco-pus and some blood. The sound revealed a rough stone at the *bas fond* of bladder. Urethra normal. Capacity, as shown by the urethrometer, thirty millimetres.

Lithotomy had been advised one year before, but he shrank from "cutting." He was etherized, and I proceeded to lithotrite and evacuate. The stone was seized quite readily, and proved to be moderately soft. I used No. 29 (Charrière¹) evacuating tube, which passed readily after slitting the external meatus. At the end of one hour and fifty minutes the fragments ceased falling into the reservoir, and I could detect none in the bladder. No shock of consequence, and three weeks subsequently the patient reported himself, by letter, as well.

Weight of fragments, 250 grains.

CASE II. J. F. D., Irish, aged sixty-one, laborer. Had suffered from severe cystitis for over two years. Frequent and painful urination, with intermittent stream of small size; urine offensive, alkaline, and cloudy, with pus. Pain in glans penis and testicles frequent, as was retraction of the latter. The sound encountered a firm stricture in the membranous urethra, which admitted only No. 10 bougie, and carried on into the bladder struck a calculus clearly. After divulsing the stricture a 32 tube was passed without difficulty. I now lithotritized and evacuated the stone in two hours and twenty minutes. Twice during the operation the pulse flagged in a marked degree, but promptly responded to hypodermic doses of whisky, and he rallied well after the operation was completed. Recovery rapid and perfect.

Weight of fragments, 347 grains.

CASE III. James L., native, age sixty-seven, jeweler. Had suffered with distinctly marked calculous symptoms for six years, although no one of several examining physicians had ever recognized the stone. Exploration revealed a large, tender prostate, and also a stone behind it. I had great difficulty, however, in finding it, and became finally convinced that it was encapsulated just behind the gland.

I passed a lithotrite, and for several minutes made futile efforts to seize the calculus, and it was not until I introduced the female blade alone, and used it patiently and most carefully as a lever-scoop, at the same time inserting the five fingers into the rectum, that I brought it into the general cavity and was able to grasp and reduce it. A 22 straight tube was first used, then a 27 curved one with the point turned downward, so as to drive the *débris* out of the saccu-

lation. So much did this irregularity of surface retard the complete clearance of fragments from the bladder, that I twice had him turned on the face to secure the aid of gravitation, and, apparently, with good effect.

The entire mass was finally removed at the expiration of two hours and forty-two minutes. This prolonged instrumentation was well borne, and after two moderate doses of brandy he rallied well.

His physician wrote me three days later that he was suffering from severe prostatitis, and this resulted in an abscess in the left lobe of the gland which nearly cost him his life. He survived this peril, however, and has quite steadily improved, until now, six months since the litholapaxy, he is in fair health, and entirely relieved of cystic irritation. Curiously, as fortunately, whether entirely from the suppuration process or this and additional effects of the severe and long-continued pressure of the large instruments, the prostatic enlargement and suffering have disappeared.

Weight of fragments, 658 grains.

CASE IV. Mrs. W. C., native, age thirty-eight, had endured "great agony" in passing water for over three years. The very significant symptoms need not be detailed. She had, at different times, discharged quite a number of calculi, varying in size from a mustard seed to a large pea, several of which I saw. The sound struck a large, rough stone at once.

Under ether I rapidly dilated the already capacious urethra until I could pass my forefinger readily into the bladder and touch the stone.

The bladder was so firmly contracted and its walls were so thick and dense that it was with difficulty I distended it sufficiently to give room for the lithotrite to work. This being accomplished, the crushing was rapidly done, as was also the evacuation readily effected, through a 36 tube, and the operation was completed in thirty-two minutes. When the tube was first inserted, and before I could connect with the bulb, three small but distinct calculi, the size of buck-shot, escaped and fell on the floor. She recovered without an unpleasant symptom. Three days ago, and four months since the operation, Mrs. C. called on me, in excellent health and spirits.

Weight of calculi, 1015 grains.

CASE V. Samuel F. S., Irish, aged seventy-one, blacksmith, had suffered from enlarged prostate for ten years or more, and it was difficult to determine just when the calculoid modification of symptoms obtained. The present suffering was, however, characteristic, and the sound touched the stone readily.

I relieved him by litholapaxy in two hours and twelve minutes, using a curved evacuating tube No. 22, which, on account of the glandular hypertrophy, entered the bladder more readily than the straight instrument. There was considerable shock, but under stimulants he rallied slowly, and in three and a half months has made a good recovery.

Weight of fragments, 189 grains.

CASE VI. H. F. C., native, age seventy-five, merchant, had endured calculoid symptoms for over six years and had often "passed gravel." He was much exhausted by his sufferings, and I approached the operation, after detecting a stone in the bladder, with reluctance, and gave a very guarded prognosis.

A firm stricture existed two inches within the urethra, admitting only a No. 5 bougie, and a long irregular contraction in the membranous portion still further

¹ All the numbers given in this article refer to the French scale of measurement.

complicated the case. A large and irritable prostate added a third not unimportant factor to the extra difficulties. However, he being etherized, I divulsed the first stricture, dilated the membranous urethra, and, after considerable difficulty, crushed and evacuated the entire calculus through a 27 tube. Time occupied, after treating the strictures, two hours and fifty-seven minutes. Appreciable shock, which promptly yielded to judicious stimulation. On the third day he had a severe and prolonged chill, followed by a temperature of 104°, and complained of much pain in prostatic region. Large doses of quinia with morphia and whisky allayed fever and relieved the pain promptly. On the fifth day another chill, followed by reactive fever of 103° gave warrantable anxiety. But similar treatment controlled the unfavorable symptoms, and he thenceforward entered upon a slow but quite steady convalescence. At present date he is still weak, but able to walk and ride moderately, and seems likely to reach a fair health level for a man of his age. He remains, now two months since operation, free from all symptoms of stone, although he suffers more or less from the enlarged gland.

Weight of fragments, 447 grains.

CASE VII. D. B. R., native, aged seventy-four, clergyman. Four years previous to my first examination he suffered retention from an enlarged prostate and too long holding of his water. So long was it before he was relieved by a competent physician that the bladder lost all contractile power, and has remained perfectly paralyzed ever since, requiring constant resort to the catheter, which he had learned to use himself. Urine was alkaline, very offensive, and heavily loaded with triple phosphates, mucus, and pus. No blood. The sound readily detected stone, and the urethral canal was found of large size.

Under ether he sustained the operation of litholapaxy well. I completed the operation in one hour and fifteen minutes, removing a calculus weighing 425 grains. The symptoms of cystic irritation promptly disappeared, and he has made a good, though, from previous feeble health, slow recovery. The paralysis of muscular coat of bladder remains, necessitating the use of a catheter. He is now, ten weeks since the operation, in fair health.

CASE VIII. G. B., native, aged fifty, carpenter, was operated upon for stone in a Western city four years ago, and after five different sittings the bladder was pronounced cleared. Amount or quality of fragments unknown. Severe cystitis with general fever followed and nearly proved fatal, according to his own account, and he found, as he recovered from the acute attack, the old symptoms returning. I readily detected stone, and he consented to the "new method." A very narrow and elastic stricture $3\frac{1}{2}$ inches within the external meatus required division, which I effected with an Otis's urethrotome, and I then proceeded to crush and evacuate a large stone without difficulty. Time, one hour and six minutes. Weight of fragments, 708 grains. Now, six weeks later, he is well.

CASE IX. S. T. T., Nova Scotian, aged fifty-seven, miner. Had suffered from symptoms of stone for three years, and I readily touched a calculus on exploration with sound. Urethra normal. I performed litholapaxy without difficulty, using No. 32 tubes, both straight and curved, and completed the clearance of the bladder in one hour and thirty-nine minutes. Operation was well borne. He has been entirely relieved, and

now, three weeks afterwards, all mucus and pus has disappeared from the urine, which is normal, and he is rapidly regaining his flesh and strength.

CASE X. This was not a case of litholapaxy, but an attempt and failure, and its main features should go on record.

J. B., Irish, aged sixty-eight, laborer. Had for over two years sustained great and increasing pain and tenderness in hypogastric and perineal regions, with constant vesical tenesmus, and very frequent micturition, the stream, which was of normal size, being often interrupted, and the pain at its maximum at the close of the act.

I first saw him on the 23d ult., and found him very weak, with an unhealthy, cachectic look, suggesting organic disease of kidneys, and in every way presenting an unfavorable aspect. His suffering amounted to agony. The terrible tenesmus was constant, and so little urine was voided at any one time that for this and other reasons not essential to relate I failed to secure a proper sample for analysis. A large proportion of blood and pus told of extensive ulceration of the bladder, which was evidently very much contracted. The urethra was capacious, and on carrying a sound into the bladder I quite readily struck a calculus with a rough surface. He had, so he said, often passed "small gravel stones."

The parts were so tender, and he was so timid with regard to any examination, being constantly under the fear that I would in some way perform some cutting operation clandestinely, that I did not determine the capacity of the bladder before he was etherized; but I warned him of its small size, and of probable firm contraction, with thickened, hardened, and ulcerated walls, and on account of these conditions I suggested lithotomy as a possible necessity, provided clearance of the bladder was undertaken, and indeed as perhaps a desirable procedure for the sake of direct drainage and perfect rest of the organ. He had, however, an insurmountable prejudice against any cutting operation whatever, declaring, although very anxious for litholapaxy or any means of relief but the knife, that he would never, under any circumstances, be cut. On this point he made me commit myself definitely just as he began to inhale ether, and also delegated sworn and trusty friends to see that I was true to my promise.

On the 26th ult., while he was profoundly anesthetized, I sounded, and found the stone, which was distinctly felt by several medical practitioners and students present. But from the first it gave the impression of being firmly fixed at the *bas fond* of the bladder, which impression became a conviction when the finger was introduced per rectum, and distinctly felt the calculus as the sound touched it within the bladder. I could not appreciably move it, nor could I rotate the instrument to any considerable degree. At first I thought of sacculation, but later I became convinced that it was merely grasped in the unyielding coats of the containing cavity. Then proceeding to distend the organ with warm water, I found, to my great regret, that the organ was indistensible. Again and again did we test it, until finally, convinced that, while the membranous urethra was very capacious, and so would hold a larger amount of fluid than the average canal, the bladder proper would not contain an ounce of liquid. Both lithotrite and tubes were repeatedly passed into the bladder with perfect ease, each time feeling the stone distinctly, but with all possible distention I could

not separate the blades of the lithotrite more than three fourths of an inch. I could neither move the stone by any manœuvre nor grasp it, nor could I rotate any curved beak, however short, in the cavity. The stone was evidently firmly held or imbedded in a very much hardened, thickened, and contracted bladder.

After conclusive demonstration of the true state of things all attempts at litholapaxy were of course abandoned, and as I was sworn not to lithotomize him, although at this juncture his friends consented, I was obliged to let him awake to his old suffering.

The exploration, etc., caused some but unimportant hæmorrhage, and it immediately ceased on desisting from instrumentation. I gave him a hypodermic dose of morphia, — one third gram. I had him put in bed. I found him, two hours later, in considerable pain, and repeated the anodyne. During the night he got thirty drops of deodorized tincture of opium, and got considerable sleep. The urine passed in but small quantity, *guttatim*. Next morning, 27th ult., I saw him at eight o'clock. He was quiet, very pale, but with a fair pulse, and temperature of 100° F. The tenesmus was moderate. I passed a catheter, and drew only about a teaspoonful of urine. He took gruel and beef tea during the night, and also while I was there in the morning. I was called out of town, and on returning at six P. M. learned that he had died an hour before.

The statement was that after my morning visit he gradually sank; not much pain, no hypogastric swelling or tenderness, profuse sweating, entire suppression of urine, ataxic delirium in the middle of the day, followed by coma and death twenty-six hours after the attempt at litholapaxy. No autopsy was obtained.

In this brief sketch of cases I have given only the main features, valuable for the statistician, avoiding any description of the operations in detail, for the reason that the readers of this article are presumed to be already familiar with this matter.

It is proper, however, to make a few statements as supplementary or explanatory. All the patients were thoroughly etherized. None of the cases except the tenth gave any evidence of renal disease. In all but this the urine was previously analyzed and the capacity of the bladder approximately estimated. In each of the nine cases of litholapaxy consent was obtained and arrangements were made for immediate lithotomy in case of failure, from any cause, to complete the litholapaxy. In five out of the nine cases slitting of the external meatus was necessary. It is noticeable that in no case was the operation followed by cystitis or septicæmic fever. In the first six cases I used some one of my familiar lithotrites, employing at different times Cimale's, Thompson's, Teevan's, and Mercier's. In the seventh, eighth, ninth, and attempted tenth, I used Bigelow's instrument. At first I could not obtain the new lithotrite, as the first lot manufactured had been exhausted, and so with Professor Bigelow's bulb and evacuating tubes I essayed my first operation. I found that the same instruments (lithotrites) that had served me for so many years still worked so well that I did not hurry as much as I otherwise would to obtain the Bigelow instrument. The fact is that in the hands of a skillful surgeon any good lithotrite may do the crushing satisfactorily in litholapaxy. In days gone by I have never been troubled with the retention of fragments within the blades, simply because of exceeding care. I always, after

driving the male blade down with crushing force upon a fragment, and before making any movement that would endanger the mucous tissue, move it back and forth several times to insure clearance of any fragments. Still I like Professor Bigelow's instrument best, and for the reasons that he clearly states in his monograph. But even this lithotrite will sometimes clog or hold fragments unless the surgeon is over careful. This I have proved by repeated trials with the instrument out of the bladder. I have twice experienced some embarrassment from a *piling up* of the fine powder, wet, as it is in the bladder, so that by repeated movements the thoroughly pulverized calculoid material not only fills up the concavity of the female blade even to its edges, but goes on building up the width of the blades, until in two instances the edges of the blades were thus separated, in one case one fourth and in another one third of an inch, by this solid *mortar*. So firm was it that all the force of one hand rotating the ball only made it more dense, without molding it out through the heel slot at all. One of these cases happened in the Maine General Hospital, and was witnessed by the superintendent, Dr. Hunt, by several members of the hospital staff, and several other physicians, among whom were Drs. Small, Pendleton, and Dudley, of this city. It will readily be seen, as was demonstrated in this case, and I have repeatedly tested the matter since with similar results, that in such a condition, the blades being separated by a substance that, for the moment, in its resistance, may be compared to leather, ragged fragments or spiculæ may be caught, and without extreme care do harm. This clogging or filling will not often occur, and probably only in the softer and more porous varieties of stone that are so finely powdered under the powerful crushing and grinding process, and that retain so much moisture. But that it has happened more than once with the exercise of extreme care shows that great caution is to be exercised with any instrument. In the two cases named the urethra was none too large to allow safe withdrawal of the clogged blades. Professor Bigelow, in his monograph, has not overstated the difficulties, constant or occasional, pertaining to this operation, or the accuracy of knowledge and perfection of skill necessary to the best performance of it. No instrument, however excellent, can compensate for lack of these qualities on the part of the surgeon. The objection has been made to the Bigelow lithotrite that it is unnecessarily large and heavy, and I cannot help sharing such a feeling. It is a fault, if fault it be, on the right side, and that it is *strong* all admit. But it seems to me that a lighter instrument, with the same style of teeth and a large accurately fitting spur, like the one in the Mercier instrument, may answer every purpose. I am having such a one made for trial.

In each of the first nine cases reported the bladder was completely emptied at the first operation, and the patients all remain free from any symptoms of calculus up to date. In no case has incontinence or any other unpleasant consequence followed the use of the large tubes.

In no instance was there but the most trifling hæmorrhage, — the tenth case gave much more than all the rest, — and in four cases not a drop of blood was seen from first to last, and one of these was the case in the Maine General Hospital, in which the peculiar filling up of the female blade, already alluded to, occurred.

PORTLAND, June 30, 1880.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF CHILDREN.

BY D. H. HAYDEN, M. D.

CONSTIPATION IN CHILDREN.

DR. J. LEWIS SMITH contributes a paper on this subject in the January number of the *American Journal of Obstetrics and Diseases of Women and Children*. After considering the various kinds of so-called symptomatic and idiopathic constipation and their causes, the author refers to a peculiar class of cases where there seems to be a constitutional tendency to constipation,—a tendency quite independent of the usual conditions (obstruction, disease, sluggish muscular contractility, improper diet), and coexisting with perfect health, where defecation takes place every second, third, or even fourth day, unless produced by measures employed. These cases are the exception, however, and a large majority of children require a daily evacuation of the bowels to do well.

In the treatment of this complaint the author dwells largely on the idiopathic form. The importance of establishing a daily habit at the same hour is insisted upon.

Chicken tea and to a certain extent beef and mutton tea are laxative, and when made plainly are useful in connection with other articles. The various kinds of berries and fruits have also a decidedly stimulating effect on the intestinal surface, and aid in removing constipation. The apple scraped or baked, or apple sauce, may be given to quite young children; and for those that are older currants, cherries, and, among dried fruits, prunes and figs are laxative. Unfermented cider in its season, which has been found so useful for adults, may also be given to children in moderate quantity, at least to those who have reached the age of two or three years.

It is generally believed that the small size of the salivary glands in the first months of infancy prevents the conversion of starch into glucose, except in very inadequate quantity. It appears, however, highly probable that there is an epithelial ferment which converts starch into sugar,¹ so that young infants can digest starchy food. Nevertheless, the theory that the infantile digestion up to a certain age is incompetent to effect the change led to the preparation of food for infants in which the change of starch into glucose was accomplished by a chemical process. Now glucose, administered in considerable quantity, is laxative, and Dr. Smith has found it necessary to give it sparingly or not at all during the hot months, when infants are so prone to diarrhoea. This laxative effect renders the glucose preparations of the shops very useful in the treatment of habitual constipation of infants, whether we employ the "maltose" or "granulated sugar of malt," or the preparations of Liebig's food. Of four constipated infants in the New York Infant Asylum to whom Horlick's "sugar of malt" was administered, three were relieved. Any of the glucose preparations can be given quite freely to a constipated infant, without impairing the digestive function or producing other ill effects, so long as no more than the normal evacuations follow. Dr. Smith considers them among the best and safest of the foods for the relief of constipation in infants; but glucose or grape sugar is only

feebly laxative, probably not more than cane sugar. The laxative effect of oatmeal gruel for nursing infants is well known. Bread or pudding from coarsely ground or unbolted flour or meal and vegetables which contain saline and fibrous substances have a stimulating and laxative effect on the surface of the intestines, and therefore are useful for constipated children of the age of two or three years and upward. There can be no doubt that the free use of water in the ingesta materially aids in relieving costiveness; and it is probable that the laxative effects of the broths, gruels, fruits, and mineral waters are partly due to the amount of water which they contain. A liberal quantity of water has doubtless a laxative effect in children, and its judicious use is proper for them. Frequent kneading of the abdomen is an important aid to overcoming constipation, and the author relates a case in which obstinate constipation occurring in a child of three years, from peritoneal bands and adhesions, was to a great extent corrected by friction over the abdomen, for three or four minutes at a time, with cod-liver oil three or four times daily. The manipulation probably did the good, and not the oil; but the use of one of the oils for inunction renders the kneading less painful, and insures its more thorough performance by the nurse.

Cold-water bathing, the sudden application of a cloth wrung out of cold water to the abdomen, and in certain obstinate cases even the douche may be used to stimulate the muscular coat of the intestines and the abdominal muscles to a greater activity.

For temporary constipation and for many cases that are habitual, enemata should be employed. The belief that the frequent use of warm clysters produces a relaxing effect is probably correct, so that if it is necessary to employ clysters often in consequence of the torpid state of the intestines, cool water is preferable. For infants a clyster of one or two ounces generally suffices. In certain long-continued aggravated cases the frequent injection of a large quantity of tepid water is indispensable, and perhaps in extreme cases the dilatation of the sphincter ani and the introduction of the speculum may be desirable. Suppositories may be sometimes usefully employed in place of enemata. Cocoa-nut butter, molasses candy, or soap cut in shape of a pencil may be used for this purpose. Dr. Nagel speaks highly of a suppository of brown gelatine. This is steeped in water for twelve hours, and having been thus softened is introduced into the rectum, and an evacuation obtained. The doctor attributes the laxative effect to the hygrometric action of the gelatine. Those who have employed the galvanic current to relieve constipation speak favorably of its use.

The ordinary purgatives should not be given habitually to relieve a constipated habit. One or two doses for present relief, both in habitual or temporary constipation, are sometimes required, provided that an injection is for any reason not preferred. For this purpose castor-oil or a few grains of calomel mixed with syrup of rhubarb, the syrup of senna, or the compound licorice powder of the German pharmacopœia may be administered with advantage. But for habitual constipation the ordinary purgative medicines should be discarded.

Belladonna, so highly recommended by Trousseau, has not seemed to the author to possess any decided purgative effect; and from its known physiological properties there is no evidence of its increasing the intestinal secretions or the action of the muscular fibres,

¹ See Chemical Phenomena of Digestion, by Charles Richet. *Revue des Sciences médicales*, October, 1878.

one or the other of which results we expect from the use of an agent which is really laxative. *Nux vomica* and *strychnia*, its active principle, are, on the other hand, valuable adjuncts to purgative mixtures.

Physicians are not unfrequently at a loss what to prescribe for the habitual constipation of nursing infants, which is by no means infrequent. But recollecting that the colostrum is more laxative than ordinary milk, and that it differs from it in containing more sugar, salts (largely phosphates), and butter, we have a hint as to what is probably lacking in milk, and what therefore should be supplied. Dr. Smith is in the habit of giving these ingredients in the following formula, and usually with the desired laxative effect:—

R $\bar{y}$ Ol. morrhuae two parts.
Aq. calcis,
Syr. calcis lactophosphat. $\bar{a}\bar{a}$ one part. M.

One quarter, one third, or one half teaspoonful may be given with each nursing, or a larger quantity, as a teaspoonful or more, three times daily. Breast milk with this addition becomes more nearly like colostrum in its laxative properties, while it does not possess those properties of colostrum which disturb the digestive process. The author knows of no agent of a medicinal nature which meets the indication so well as this for infantile constipation. He has found it necessary, however, in his practice in not a few instances to rely mainly on simple enemata for the relief of the constipated habit till the infants reached the age where a mixed diet was proper.

For the habitual constipation of older children, when it is desirable to employ active purgatives of the pharmacopœia, since the portion of intestine which is chiefly implicated is the colon, such should be selected as produce little or no irritation of the long tract of the small intestines, while they simulate the function of the colon. The aloetic preparations are preferable for this purpose, as the tincture of aloes and myrrh, or the simple tincture of aloes, which may be given in doses of a part of a teaspoonful in a convenient syrup, as the elixir adjuvans of Caswell and Hazard, or in coffee or milk.

THE USE AND VALUE OF SALICYLATE OF SODA IN CERTAIN FEBRILE DISEASES OF CHILDHOOD.¹

Whilst Riegel, Becker, and Brazina speak in high terms of salicylate of soda as an antipyretic remedy in typhoid fever, Riess regarding the same as a specific in this disease, Filatow expresses exactly opposite views, declaring that, with the exception of lowering the temperature, all the other symptoms remain unchanged or are more developed, the pulse becoming slower and at the same time weaker, and that of thirty cases of children sick with typhoid fever two died. Filatow arrives at the conclusion that salicylate of soda has no effect at all in typhoid fever, and can therefore not be recommended in this disease.

On account of this diversity of opinion the writer instituted a series of experiments, the observations extending to over two hundred cases.

Salicylate of soda was administered during three years, and especially cases were selected of febrile diseases characterized by a constant and typical fever course. Prominent among such diseases belongs typhoid fever, which it is well known runs a milder course

in childhood, and in which disease the experiments of Riess have been particularly conducted, with beneficial results. Moreover, it was used in diphtheritis, inflammation of the joints, and malarial fever.

During these three years there were one hundred and twenty-eight cases of typhoid fever, of which ninety-six were treated with salicylate of soda, thirty-two partly with quinine and partly with mineral acids. The latter circumstance was due to the fact that the disease was not recognized in its early stages on account of its irregular appearance, or on account of complications, or because the children came first into the hospital after the disease had run its course, and consequently needed nothing but rest. The daily dose of the salicylate of soda was two to four grammes (one-half to one drachm); to smaller children given in solution in teaspoonful to dessertspoonful doses; to older children this amount was given divided into ten powders, of which one was taken every hour in wafers. Immediately afterwards the children were given water to drink.

The author directed his attention principally to the course of the fever, and for this purpose the temperature was taken night and day every two hours so long as the temperature continued to rise after its fall; and it was thus easy to determine in what time and for how long a time a certain quantity of the remedy was able to keep down the fever.

The beginning and duration of the fall in temperature was very various. One time this took place half an hour after administering the remedy; a second time one hour afterwards; in a third case, where the temperature rose to 105.8° F., not until four hours. The fall was generally one to two degrees, often down to the normal. The remission varied in length on an average ten to fifteen hours; then the temperature began again to ascend, and gradually to reach its former height. In a few obstinate cases, after the first three grammes, there was no, or only a very little, fall in the temperature observed; and it was only after this dose was repeated the second or third time that the working was observed. There was generally found a large fall in temperature when large doses were given in rapid succession, whilst the same effect was not produced once where the same doses were given at long intervals. In addition to the fall in temperature other effects were noticed after administering salicylate of soda. In a small number of the patients there appeared, especially on the face and thorax, a slight transpiration, which lasted fifteen to thirty minutes, the skin then becoming dry again. In other cases, — and these formed the majority — there was no sweating at all. With the youngest children the author was often able after large doses to notice a certain depressed and languid condition. In no case was there any complaint made of noises in the ears, deafness, headache, or vertigo, as is the rule with quinine. In a few cases where the remedy was used for a long time there was nausea, and older children complained of a tickling in the throat and pain in the stomach. The symptoms, however, disappeared rapidly as soon as the remedy was left off for a short time. There was no noticeable effect produced upon the pulse, this becoming slower in proportion as the temperature fell. A marked weakness of the pulse, as described by Filatow, the author never met with. Salicylate of soda seems to work on the bowels; and in several cases where there was a diarrhoea this ceased with the use of this remedy. A shortening of the typhoid fever, however, was not noticed in a single case, so that salicylate

¹ Ign. Weiss, Emeritus Assistant in the Clinique of Professor Bokai, in the Budapest Children's Hospital. Allgemeine Medicinische Central-Zeitung, April 7, 1880, No. 28.

of soda cannot be regarded as a specific in this disease, such as quinine is in intermittent fever; but as the high fever, which is always present in typhoid fever, and threatens to exhaust the patient, is materially and permanently kept down by this remedy, in this way a part of the danger is averted.

In addition to typhoid fever the author has employed salicylate of soda in cases of diphtheria, acute inflammation of the joints, and intermittent fever.

The effect upon the temperature in diphtheria was in no way so striking as in typhoid fever, nor was there any effect produced upon the course of the disease by this remedy.

In acute articular inflammations there were seen about the same changes as in typhoid fever; moreover the pain was relieved.

As an example the author relates the case of a young girl, ten years old, who was attacked with acute articular rheumatism three weeks after a scarlet fever. The pains were so intense that the patient groaned and sobbed continuously day and night. After the first three grammes (forty-five grains) of salicylate of soda the pains and fever both yielded in a very short time. The temperature fell from 104.3° F. to 101.1° F.

In intermittent fever a paroxysm was prevented only when the remedy was given immediately before the paroxysm was expected. An effect was noticed only on the day of the fever, and when the remedy was not given on the fever days it always returned at the regular time. Quinine has this great advantage in malarial fever, that it has the power to cut short the disease completely, whilst salicylate of soda is only effectual to cut short the paroxysm when given just before it is expected. From the fever curve of a case reported it is seen that the paroxysm returned every afternoon at the same hour; the high temperature lasted three hours, then sank gradually, and the child was free until the next day. Immediately before the expected attack three grammes of salicylate of soda were given, and there was no paroxysm. On the two following days, when the remedy was not used, there was, in the afternoon, a considerable rise of temperature. On the third day eighty centigrammes of quinine (twelve grains) were given, and the paroxysms did not return.

The author sums up the result of his observations in the following conclusions:—

(1.) Salicylate of soda is a powerful antipyretic remedy in the typhoid fever of children, which, whilst it does not shorten the course of the disease, renders it much milder.

(2.) The results with this remedy in typhoid fever are better than have hitherto been obtained by quinine, cold-water baths, cold wrappings, and the various mineral acids.

(3.) The beneficial effect can only be obtained when large doses are given at short intervals, and the author has never observed any ill effects following its use.

(4.) In diphtheritis salicylate of soda has no influence upon the course of the disease.

(5.) In acute articular rheumatism the effect both upon the fever and upon the pain is a remarkably favorable and quick one.

(6.) In intermittent fever salicylate of soda is only of service when given immediately before the expected attack. As quick as the remedy is left off the paroxysms return.

TWO CASES OF POISONING BY MORPHINE AND OPIUM RESPECTIVELY IN INFANTS.¹

Wertheimer² relates a case of poisoning by one centigramme (one sixth grain) of morphine in an infant fourteen days old. For an hour and a half after the administration of the above dose the child was cyanotic, completely comatose, and pulseless, the heart's beat being weak and intermittent. The extreme contraction of the pupils led to an accurate diagnosis of the cause of the child's condition, which had previously not been known. The employment of artificial respiration by a rhythmical compression of the thoracic walls continued for a long time, combined with the use of black coffee and of liquor ammoniæ anisatus, led to recovery.

In a case reported at the meeting of the Academy of Medicine, held February 17th of this year, by Le Roy de Mirecourt, and observed by Nicolas and Demony, a child three weeks old took by mistake a teaspoonful of Sydenham's laudanum (vinum opii). The first symptoms of poisoning made their appearance two hours afterwards, and consisted of a deep somnolence, which was interrupted by attacks of convulsions. After such an attack the weakness would be so great that at times the heart ceased to beat. Here, also, artificial respiration was resorted to, and especially put in operation during the convulsive paroxysms. To the perseverance in these measures must be attributed the fact that eight hours after the appearance of the first symptoms of poisoning the somnolence seemed to diminish a little, and the infant's condition gradually advanced towards recovery. On the following day there were violent reactionary symptoms. There was not complete recovery until the fourth day. Micturition took place for the first time twelve hours after the beginning of the symptoms.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

THE last stated meeting of the season was held on Monday, June 28th, and on this occasion Prof. John C. Dalton, of the College of Physicians and Surgeons, gave a demonstration of

A READY METHOD OF MAKING BRAIN SECTIONS FOR POST-MORTEM EXAMINATIONS.

The apparatus employed consisted of a wooden frame-work having a deep slit on each side, by means of which a long knife could be used for making thin sections of the brain, and provided with a false glass bottom and a transverse glass plate, against which the brain was to be pressed. By keeping the brain pressed against this glass plate with one hand, while the cutting was done with the other, the whole organ could be divided into even sections of eight millimetres in thickness. In order that the sections might be made with greater facility and smoothness, a vessel containing a lubricating fluid consisting of glycerine and ammonia, and provided with a rubber tube and stop-cock, was suspended just over the space for the knife; while the knife itself was soaped before being used. The only point requiring any special care or knack was that the

¹ Berliner klinische Wochenschrift, April 19, 1880.

² Deutsches Archiv für klinische Medicin, Bd. xxiv. Heft 3.

brain should always be pressed evenly against the glass plate, in order that the sections should be symmetrical on the two sides; and Dr. Dalton had found that this even pressure could be better secured by covering the convex surface of the brain with a layer of cotton-wool than if it were grasped simply by the hand. In order that the appearances observed in the various sections thus made might be permanently preserved, a convenient arrangement was exhibited by means of which accurate tracings of all the outlines could be made with a pencil upon ground-glass; and if a number of such tracings were required they could be multiplied indefinitely by the aid of photography.

At the conclusion of Professor Dalton's demonstration Dr. J. G. Kiernan read a paper on

THE PSYCHOSES OF THE SECONDARY FEVER OF SYPHILIS.

This subject, he said, had attracted but little attention on the part of the profession, and therefore he thought that some account of four cases which had come under his observation might prove of interest. The first patient was a tailor, a man of criminal antecedents and criminal tendencies, who was of intemperate habits and whose sister was a prostitute. Four weeks before his admission to the institution with which Dr. Kiernan was connected the initial lesion of syphilis had made its appearance, and one week before it was noticed that he had become very taciturn and morose. Three days before admission, fever, with an eruption, set in, and he became the subject of hallucinations, the most common of which was that some one was trying to shoot him. When he was admitted he was in a state of great terror and agitation, and it was found that there was a well-marked syphilitic roseola upon his person. He was treated principally with quinia internally and mercurial inunction externally, and during the next three weeks his hallucinations gradually became less and less frequent. He remained a month longer in the institution; when all symptoms both of insanity and syphilis had disappeared. He was seen a year and a half afterward, and up to that time had continued in good health.

The second case was of a very similar character. Twenty-five days before admission the initial lesion of syphilis had appeared, and it was one day while looking at the animals in the Central Park menagerie that the patient began to suffer from hallucinations. He there evinced great terror lest he should be torn to pieces by the wild beasts, and these fears continued up to the time of his admission. Quinia, chloral, and other remedies were administered, and the fourth day after he was admitted a roseolous eruption made its appearance. At the same time he was troubled with many hallucinations and delusions, which continued for three weeks, when the eruption disappeared under treatment. As in the preceding case, the patient made a perfectly good recovery.

In the third case there was the history of hereditary insanity. Finding that there had been present the initial lesion of syphilis, Dr. Kiernan put the patient at once under specific treatment by wrapping him in a sheet smeared with mercurial ointment, and the third day after admission a roseola broke out. Nine days afterward this was fading, and the hallucinations, which resembled those seen in the other instances, began to disappear. In this case the patient had previously been in an insane asylum in Massachusetts for a year.

The fourth patient was a man seventy-five years of age, and a mason by occupation. He also had been previously insane, and one peculiarity of his case was that he was constantly looking for individuals who had long been dead. His memory of objects to which he had been accustomed long ago was quite good, while in regard to recent ones it was very defective. He was quite oblivious, too, of the fact that he had been married, although he had children who were past middle age. He imagined that spiders were crawling over him, and was at times very violent. It was found that he had ulcers upon his penis, and two weeks after admission a roseola came out. The treatment consisted of quinia, hyoscyamine, and chloral, with wrapping in a sheet smeared with mercurial ointment.

It was thus seen that two of the cases were complicated with chronic insanity, while in the other two this was not the case. From a consideration of the above cases a number of interesting inquiries naturally arose:—

(1.) Is the insanity due to the syphilis? The writer believed that it was.

(2.) Is there anything peculiar about this insanity dependent upon the presence of syphilis? He was convinced that the delirium noticed was quite analogous to that produced by alcohol and other similar agents.

(3.) What changes are to be found post mortem? The answer to this was only conjectural; but he thought that in all probability none would be found.

(4.) What is the character of the fever present? The fever he believed to be very much like that produced by alcohol and other such agents.

(5.) What are the predisposing causes? Judging from the above cases, hereditary tendency had much to do with their causation.

(6.) What are the best means of treatment? Wrapping the patient in a sheet smeared with mercurial ointment, in connection with quinine and such agents as the nervous condition seemed to indicate, had proved of the greatest service.

(7.) Should the patient be sent to an asylum or not? This would depend to a great extent on the character of the institution and its medical officers. Undoubtedly such patients could be attended to better in a well-regulated asylum, presided over by a superintendent of ability and skill, than at their own homes.

ANNUAL REPORT OF MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY TO THE MASSACHUSETTS MEDICAL SOCIETY.

BY D. M. EDGEELY, M. D.

IN April a circular was addressed to the members of the Middlesex South District Medical Society, requesting each to state any facts in his possession which would show the condition of public health in his circuit; also to report if there had been anything unusual in the character or amount of disease that has prevailed. Such a call being a new thing, and coming rather late in the season, many had not prepared themselves to respond in any but the most general way. On the whole the response was as satisfactory as could be expected.

A very large number call attention to the unusual prevalence of bronchitis, tonsillitis, and influenza of severe type. The onset of the attack has usually been

sudden, attended with high fever, rapid, full pulse, severe headache, and pain in the back and limbs. These symptoms have generally yielded readily to treatment, but the coryza, sore throat, and cough which resulted have been severe and obstinate.

Almost all cases have been followed by marked debility, and sometimes by actual prostration, attended in some cases by irritability of the stomach and stranguity, and often by troublesome and intractable facial and intercostal neuralgia.

From the report of Dr. Hosmer, the following extracts may be of interest. He says, —

"For the first time in my life I have seen the disease [diphtheria] relapse. A little girl who was recovering from the disease in the pharyngeal form, with slight dysphonia and some ringing cough, suddenly became worse, and there appeared in the fauces a deposit of false membrane, much more extensive and thicker than the original one, and at the same time the laryngeal symptoms returned with increased severity. The patient recovered.

"Another little girl, whose infant sister had died of the disease, and who was almost the last of the family to suffer from it, was taken ill upon a Monday morning, the disease being extremely light and confined to the pharynx. In forty-eight hours she was decidedly better, and in one week was supposed to be well. On the Wednesday of that week, nine days from the date of the first attack, there was marked dysphonia, which continued for thirty-six hours, without constitutional symptoms. From that time we had to deal with a well-marked case of laryngeal diphtheria, in which there was a sudden and decided change for the better on the fifth day, and which furnished the first instance of recovery that my experience includes."

"In some instances the diphtheritic exudation was scarcely more than a point, yet its true character was established both by the external relations of the case and by the prostration which attended and followed. The only sequel of the disease was paralysis, in some cases impairing vision by interfering with the accommodation; in some, by its effect upon the soft palate, rendering articulation and deglutition difficult, disagreeable, and unnatural, and in others inducing marked anæsthesia of the limbs, especially the lower ones, impeding locomotion to a serious extent. One fact which has struck me with especial force is the marked and surprising suddenness with which muscular power returns to those who are suffering with post-diphtheritic paralysis, so that a convalescence which, covering a period of weeks, has been slow and tedious is completed in the most abrupt manner. This phenomenon of what almost deserves to be called instantaneous improvement I have seen only in cases in which the extremities were the seat of the paralysis.

Recurrence is so interesting a phenomenon that it is entitled to particular notice. It is well illustrated by the following facts: In a family which has been using well water of dangerous quality, there were two children who had the disease a second time, having already passed through it in the spring of 1878, in another part of the State. A third child, who escaped at that time, had the disease in January last, and again in April. The patient was described by her mother as a 'croupy' subject, and I was called to a supposed case of croup. But on the fourth day the appearance of a pseudo-membranous deposit on the tonsils, the engorgement of the cervical glands, and a peculiar fetor, which

is associated only with one disease, established the diagnosis of diphtheria. The child did perfectly well, and made a rapid convalescence."

The following extracts are from the annual address of Dr. J. T. G. Nichols, entitled *Cases in Obstetric Practice*: —

A CASE OF CONCEALED ACCIDENTAL HÆMORRHAGE.

Mrs. L., thirty-eight years old, at term, sixth pregnancy. Two weeks before had an attack of vomiting, apparently from indigestion, lasting twenty-four hours. For several hours there was a dark-colored discharge from the vagina. At four A. M., December 4th, she was roused from sleep by a profuse gush of blood from the vagina. The bleeding had stopped when I saw her; there was no pain; the os was closed, and no presentation could be made out by digital examination. Palpation showed that the child lay across the axis of the uterus. The fetal heart could not be heard; the placental souffle was most distinct near the fundus. Six hours later slight pains came on. At two P. M., six hours after the bleeding, the membranes burst, and an unusually large quantity of liquor amnii was discharged. The pains gradually grew stronger, and at seven P. M. a profuse flooding began. I saw her in a short time; the hæmorrhage was still going on. She was blanched, faint, restless, half unconscious, skin cold and wet, the pulse nearly imperceptible at the wrist. The os would barely admit a single finger, and was very rigid. The vagina was at once thoroughly plugged with sponge, and the treatment directed to restoring the patient from the dangerous prostration which had followed the loss of blood. There was no more hæmorrhage, but for many hours the result was very doubtful. During the next day reaction came on. The pains, which been suspended for hours, returned, and at seven P. M., twenty-four hours after the last hæmorrhage, the feet expelled the plug, and a dead child was soon born. The placenta was expelled without unusual hæmorrhage. On the edge of the after-birth was an ecchymosed, ragged spot, not larger than a silver dollar. The patient suffered from anæmia for many months, but at last recovered fully. She has not been pregnant since. This case will illustrate very well the wisdom of conservative practice. An early attempt to deliver the child, would, I think, have turned the scale against the patient. Nor do I see that anything would have been gained by the attempt to dilate the os by Barnes's bags. As soon as the patient rallied from the immediate effects of the loss of blood, labor went on naturally. Contrary to the usual rule, the hæmorrhage occurred after the discharge of the liquor amnii. The gradual change from a transverse to a longitudinal position was well shown. This change, usually from an abnormal to a normal position, seems to be by no means uncommon in the later months of pregnancy. One writer, Valenta, quoted by Playfair, found that in one thousand cases, carefully examined during the later period of gestation, a marked change in the position of the fœtus occurred in forty-two per cent."

THREE CASES OF PLACENTA PRÆVIA.

"CASE I. Mrs. F., sixth pregnancy. During the last months of gestation there were three slight attacks of hæmorrhage. Labor began at term, with profuse bleeding. The placenta was partially over the os, the head presenting. Rupture of the membranes and plugging

the vagina controlled the bleeding. Labor was rapid, the child being born, alive, in an hour. The mother did well.

"CASE II. Mrs. H., fourth pregnancy. Quite a smart hæmorrhage occurred at the end of the third month. There were several slight attacks of bleeding during the last two months. Labor began at term, with profuse hæmorrhage. The placenta was partly over the os, which was so far dilated that version was soon accomplished. Mother and child did well.

"CASE III. Mrs. M., first pregnancy. Labor began with brisk hæmorrhage at term. There had been a slight loss of blood the day before. The bleeding had been going on three hours when I saw the patient, and she was in a bad condition. The placenta was entirely over the os, which was dilatable and admitted three fingers. She was etherized, and the hand carried to the edge of the placenta and the bag of waters ruptured. The feet presented and were at once brought down, and the child soon delivered, dead. The uterus did not contract well, and a good deal of blood was lost after the placenta was removed. Ice was used, and the hand carried into the uterus and kept there until contraction was secured. The woman died of peritonitis six days after delivery.

"In this case I believe the mistake of too rapid delivery was made. Had I waited, after bringing down the feet, until the effects of ether had passed off and the woman had rallied in some degree from the effects of the loss of blood, the uterus might have escaped the rough handling which was necessary to secure contraction, and possibly the result would have been different.

"In these cases, as in some other emergencies of practice, it requires greater resolution to wait than to act."

Recent Literature.

Pharmacology and Therapeutics; or, Medicine Past and Present. By T. LAUDER BRUNTON, M. D. London: Macmillan & Co. 1880.

The scope of a course of lectures limits an extended discussion of this broad subject; and the reader of these Goulstonian lectures will be disappointed if he expects a detailed treatise on the history of medicine in the past and present, and to be enabled to measure by this standard its progressive march. An enumeration of the heads embraced in these two hundred pages will show more fully than a detailed criticism the vast amount of material which is at hand for a more complete disquisition:—

The history of medicine past and present, and its progress. The rational and scientific study of medicine, including an historical sketch of the progress of anatomy, physiology, and pathology. The history of pharmacology and its relations with therapeutics. The illustrations of the results of pharmacological methods, and the application of pharmacology to clinical medicine. Next a very brief illustration of the scientific application of certain therapeutical remedies in a limited number of diseases, the object of respiration, the effect of anæmia and the action of iron, and a very succinct account of digestion, with the action of digestive ferments and local stimuli upon the primæ viæ.

Here are materials for an enormous cyclopædia, and

it is hardly reasonable to expect that the student of medicine could in these few pages learn much more than a synopsis. The advanced physiologist and well-informed physician will read with appreciation this *multum in parvo*, but it is modestly suggested that many topics and facts omitted by Dr. Brunton will frequently recur to the highly cultivated physician, so that if he will read between the lines he will enjoy this outline; and yet the less cultivated physician will regret that Dr. Brunton did not use these lectures, which show a vast resource of information, for the basis of a more exhaustive treatise, so that the subject could be appreciated by a larger class of readers and students. What he has here given us is good, but we wish there were ten times as much more, for we are reminded of a finished professor of mathematics evolving a problem, the steps of which are so wide apart that our feeble steps cannot climb with him.

Atlas of Histology. By E. KLEIN, M. D., and E. NOBLE SMITH, L. R. C. P. Part XI. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

The part before us is one of uncommon importance. It treats of the urinary and generative organs. The kidney is always an interesting organ, owing to the ease with which its structure is understood up to a certain point, and the difficulty of determining certain questions that lie beyond it. We will venture to say that many who think themselves pretty familiar with the organ will be surprised at the number of segments into which the authors divide the urinary tubule. A good diagram makes it very clear, though we are still rather doubtful if the work of subdivision has not been overdone.

There has been so much written of late about the development of the spermatozoa and of the ovaries that such accounts as are given in this work will be very welcome to those who have not had opportunities to follow the rather voluminous literature. The plates, as usual, are excellent.

A Guide to the Examination of the Urine. Designed for the Use of Clinical Clerks and Students. By J. WICKHAM LEGG, Fellow of the Royal College of Physicians of London, etc. Fifth edition. Philadelphia: Presley Blakiston. 1880.

This little volume, which is intended to supply the physician and student of medicine with a concise guide to the recognition of the more important characters of the urine, was, when first issued, the best work of this nature in the English language. In noticing the later editions, however, it is impossible to keep out of one's mind the admirable little work of Professor Tyson, of Philadelphia, on the Practical Examination of the Urine, successive editions of which have been favorably noticed in the JOURNAL. The latter, although but little larger, contains all that the former does and much more, and is of much greater value both to the physician and student. By comparison Dr. Legg's work suffers, in being altogether too limited. Whatever use it may have served originally, it certainly does not now supply any requirement of the profession this side of the water.

Medical and Surgical Journal.

THURSDAY, JULY 15, 1880.

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MORTALITY RISING WITH THE THERMOMETER.

THE month of June just past was a very hot and an extremely dry month, as the following comparative mean temperatures and precipitation for the Junes of the last decade, as taken from the weather reports of the Signal Service Station in Boston, will show:—

COMPARATIVE TEMPERATURES.

June, 1871.....	66.2°
" 1872.....	67.6°
" 1873.....	67.2°
" 1874.....	65.8°
" 1875.....	66.5°
" 1876.....	67.6°
" 1877.....	65.2°
" 1878.....	64.2°
" 1879.....	64.2°
" 1880.....	67.7°

COMPARATIVE PRECIPITATION.

June, 1871.....	5.35 inches,
" 1872.....	4.84 "
" 1873.....	0.54 "
" 1874.....	3.94 "
" 1875.....	7.25 "
" 1876.....	1.72 "
" 1877.....	3.21 "
" 1878.....	2.28 "
" 1879.....	5.36 "
" 1880.....	0.75 "

Much the same thing is shown in an even more striking way by the mortality reports from various parts of the country.

	FOR THE WEEK ENDING					Estimated population July, 1879.
	June 5th.	June 12th.	June 19th.	June 26th.	July 3d.	
Total deaths	2404	2503	2801	3569	3835	—
Total deaths under five years	1049	1133	1477	2129	2339	—
Under five years, New York	198	211	338	713	863	1,085,000
Under five years, Brooklyn	76	81	124	289	326	564,400
Under five years, Philadelphia	121	106	155	219	338	901,380
Under five years, Baltimore	110	124	133	141	117	393,798
Under five years, Boston	85	40	43	47	79	385,000
Deaths from diarrhoeal diseases	198	637	798	992	1204	—

The total deaths are for all cities and towns reporting all over the country; the above sea-board cities are selected merely for comparison.

The preceding table might easily be made more full, but it could scarcely be more striking, and requires very little comment. It will be remembered that in the first part of June the temperature was rather moderate as succeeding to some very hot days in May, and the excessive heat of June culminated on the 27th, when the thermometer marked 93° F. All this is clearly exhibited in the table, if we bear in mind the fact that the effects of excessive heat upon the mortality are to be sought after a little delay. One very striking feature of the above table is the enormous proportion of deaths under five years of age furnished by New York and Brooklyn. Of a

total number of deaths under five years reported for the week ending July 3d, that is, 2339, New York alone furnished 863, or more than a third, and New York and Brooklyn together 1189, or almost exactly one half. But if we compare New York with her own record last year, the figures are perhaps even more impressive.

The total number of deaths from all causes in New York, as reported for the weeks ending June 7, 14, 21, 28, 1879, respectively, were 490, 441, 473, 562. In each of the last two weeks of June, 1880, the mortality of those under five in New York far exceeds the total mortality of the corresponding weeks last year in that city. The comparatively small number of deaths of children in Boston is noticeable. For the purpose of general comparison the average weekly total deaths for all towns reporting may be roughly stated at 2300 to 2400, the average total deaths under five years of age at 900 to 1000. The total deaths from diarrhoeal diseases are available for comparing this same factor in the different weeks, but owing to the absence of reports under this head from Philadelphia the value of these figures for comparison is restricted.

It is to be hoped that the almost pestilential effects of the heat in June will rouse the municipal, sanitary, and charitable organizations of our large cities to put forth every effort to anticipate and counteract the trying weeks of August. The temperature may be less elevated, but the human system likewise will have less power of resistance.

THE BOYLSTON PRIZE.

WE would call the attention of our readers to the following announcement of the committee who have in charge this time-honored prize, which for several generations has been competed for by men in this vicinity whose names have since attained a world-wide celebrity. Occasionally a stranger has appeared to carry off the honors, but we believe that this is the first occasion that the prize has gone across the Atlantic. An advertisement which recently appeared in the *JOURNAL* states that "at the annual meeting, held June 2, 1880, it was voted that a prize of one hundred and fifty dollars be awarded to W. Watson Cheyne, F. R. C. S., Assistant Surgeon of King's College Hospital, London, for a dissertation on Antiseptic Treatment: What are its Essential Details? How are they best carried out in Practical Form? It was also voted that, in view of the great excellence of this dissertation, there be added to the award the Boylston Prize Gold Medal."

The successful competitor is, we understand, one of Professor Lister's assistants, and has probably given, therefore, an authoritative statement of the "antiseptic system" as it is now carried out with all the latest improvements. We shall therefore look forward with much interest to the publication of the paper.

The following are the questions proposed for 1881:

(I.) The Effects of Drugs, during Lactation, on either nurse or nursing.

(II.) Injuries to the Back, without apparent mechanical lesion, in their surgical and medico-legal aspects.

The author of a dissertation, considered worthy of a prize, on either of the subjects proposed for 1881, will be entitled to a premium of three hundred dollars.

The questions proposed for 1882 are:—

(I.) Sewer Gas (the gas found in sewers): What are its Physiological Effects on Animals and Plants? An Experimental Inquiry.

The author of a dissertation on the above subject, considered worthy of a prize, will be entitled to a premium of three hundred dollars.

(II.) The Therapeutic Value of Food, administered against, or beyond, the Patient's Appetite and Inclination.

The author of a dissertation on the above subject, considered worthy of a prize, will be entitled to a premium of two hundred dollars.

NEW METHODS OF TREATING CANCER.

THE monotony of the treatment and prognosis of cancer has been varied of late, for the moment at least, by the suggestion of two new methods of treatment. Professor Clay, of Queen's Hospital, Birmingham, has called the attention of the medical world, in the *London Lancet*, of March 27th, of this year, to his successes with a medicine, Chian turpentine, which he is disposed to regard almost as a specific in the treatment especially of uterine cancer; and Professor Beneke, of Marburg, in the second number of the *Berlin klin. Wochenschrift* for 1880, again solicits a fair trial of his previously suggested dietetic treatment of those afflicted with malignant growths.

Chian turpentine is by no means a new substance, either in commerce or in medicine. It was well known to the ancients, is mentioned by Theophrastus, and is carefully described by Dioscorides in his work on materia medica, written about the year 78 of the Christian era. The writer says of Chian turpentine that "it acts as a diuretic, and is used in wine for diseases of the finger-joints; it is very fit to give in cough and wasting away, and is given either by itself or mixed with honey." He also mentions other diseases in which it was formerly administered. In Greece it is now used for flavoring cordials or mixing with wine. Professor Clay has used Chian turpentine in combination with sulphur, either in the form of pills or of an emulsion; when given in the pill form the proportion was three grains of turpentine to two of sulphur.

Whether the favorable results are to be attributed to the essential oil, to the resin, to the sulphur, or to the combination, the future must disclose.

The amount of the drug which finds its way into the market is very small, the annual product being estimated at only about eight hundred and fifty pounds, of which the largest part is sold by the Jews in Turkey. Even in the days of Dioscorides this oleo-resin was subject to adulteration, and the art has not

been lost, for Professor Clay tells us that scarcely five per cent. of a very large number of samples submitted to him were genuine. Should the hopes entertained in regard to Chian turpentine as a foe to cancer not prove delusive, there will of course immediately be enough for the whole world, as there always is of champagne; and in any case it is probable that the quantity of this drug demanded by the public, and of resin sold as such, will be largely increased for some time to come.

The pretensions of Professor Beneke in behalf of his treatment are somewhat more moderate than those of Professor Clay. He is persuaded that by properly regulated and rigid diet much may be done to control the cellular hyperplasia, especially of the less highly organized forms of cancerous growths, and thus to prolong, at least, the lives of those affected by them. Starting with the assumption that cancer cells are comparatively rich in cholesterin, leathin, and the alkaline and earthy phosphates, he excludes these as well as the albuminates as much as possible from the diet. Milk is prohibited; bread and meat reduced to the smallest possible quantities, of the latter only two ounces, weighed before cooking, are allowed daily. Fruits and vegetables may be eaten without restrictions. Professor Beneke claims that if his diet table is followed the usual ratio of the nitrogenous to the non-nitrogenous constituents of a mixed diet may be changed from 1.5 to 1.8 or 9. This diet is consistent with life and general health, as shown by actual experience; of how great value it may prove in combating cancer, that experience is as yet too limited to permit of any positive opinion. Eight cases only are reported: of these two were too far advanced for operation, and died shortly; two died after several operations; one, treated simultaneously with Fowler's solution, was operated on without a return; and three were alive when Professor Beneke wrote his article. This of course proves nothing.

The truth is, the affection is so desperate and distressing that the profession, only in a less degree than the public, is ready to lend an ear to any suggestion not too unreasonable, and to allow the hopes to outstrip the reason in saluting any new champion who enters the lists in this conflict.

MEDICAL NOTES.

— From the *Medical Times and Gazette*: At the Berlin Obstetrical Society, Dr. Runge related a case (*Berlin klin. Woch.*, April 26th) in which he had performed Cæsarean section, saving a living child, while the mother was in the agonies of death from a cerebral tumor. She died while the ligatures were being applied. Adverting to the general question, he observed that the prognosis of the child's life was more favorable than in the post-mortem section. He admitted, however, that great difficulty often attended determining the indications, especially in diseases which are not absolutely fatal. He thinks, however, when the mother's death can in a short time be cer-

tainly predicted, and delivery by the natural passages does not offer a better prospect, the operation should be proceeded with as soon as the symptoms indicate that the child's life will be lost before that of the mother unless interference promptly takes place. [This line of procedure seemed to meet with the approbation of the members present. We think, however, that in such a case the Italian practice of delivery by the natural passages, which is usually easily effected under these circumstances, is far more humane.]

— Dr. Danillo, after observing that little has been done with reference to the influence of phosphorus-poisoning on the spinal cord, furnishes an account (*St. Petersburg med. Woch.*, May 8th) of the results of a series of experiments which he has performed in Professor Mierzejewski's laboratory, by administering large doses of phosphorus to dogs. He describes at length the appearances of the spinal cord, and thus sums up the results of his investigations: (1.) Large doses of phosphorus given at short intervals induce parenchymatous myelitis, with massing of pigment and extravasations of blood. (2.) Continued for a longer time in smaller doses, it gives rise to myelitis centralis in all its stages. (3.) According to the dose of phosphorus exhibited, myelitis of different degrees of intensity may be produced. (4.) In phosphorus-poisoning a large amount of pigment formation takes place, — a fact which no one has hitherto recorded. (5.) As myelitis can be produced by phosphorus, it becomes highly probable that a portion of the complex nervous symptoms which poisoning by this substance gives rise to may be the clinical expression of the myelitis which has been induced.

— In the *Therapeutical Gazette* Dr. Gundrum reports the particulars of a case of chronic knee-joint disease, in which hyperdistention of the abscess sac with a carbolic-acid solution, strength 1.40 (Callender's method), was followed by symptoms of a most alarming and almost fatal collapse, due to carbolic-acid poisoning, as was clearly proved by the abundant formation of carbolic-acid crystals in a portion of the patient's urine after evaporation.

A great variety of treatment was tried, without success, to produce a reaction. The patient was almost moribund. A profuse, cold, clammy perspiration stood out all over his body. The forehead, face, and extremities were as cold as they could well be. The trunk was very cool. The patient lay with his eyes closed, breathing very slowly and superficially. The pulse was perceptible at the wrist only part of the time. In this extremity, Dr. Gundrum proposed the hypodermic injection of atropine as a last resource, having found it useful in several other cases of shock and collapse. Seven drops of a solution, containing one grain to the ounce, were injected into the upper part of the right arm. This was followed by the happiest results.

In fifteen minutes the perspiration was much less, and the skin felt less cold. In twenty-five minutes the whole surface of the body was dry, and the trunk began to feel warm. In one hour from the injection

the hands and feet, as well as the whole body, were warm. The pupils were slightly dilated, and there was slight redness — a feeble blush — about the cheeks, neck, and back of hands, and the lips and ears were of a pale red color. Entire consciousness rapidly returned, and the patient began to take beef-tea, gruel, etc., etc. He now told those in attendance that he had known nothing since the time the upper abscess had been distended for the third time.

— At the recent Surgical Congress, in Berlin, says the *British Medical Journal*, Herr Gluck reported the results of some observations which he had made on the transplantation of nerves. His experiments had been performed on twelve common fowls, from the sciatic nerves of which he had removed portions three or four centimètres (0.12 to 0.16 inch) long, and substituted for them portions of the sciatic nerves of rabbits. At the end of eleven days, the conducting power of the nerves was found to be restored; irritation of the sciatic nerve above the transplanted portion (the nerve being carefully isolated) producing muscular contraction. The restoration of the conducting power occurred even when the position of the peripheral and central ends of the transplanted nerve were reversed, the latter being fastened by suture to the central end of the divided nerve in the fowl, and *vice versa*. In order that the result may be successful, union of the ends of the nerves by the first intention is indispensable. This, according both to the present and the former researches of Herr Gluck (described in Virchow's *Archiv*, Band 72), is a true regeneration, consisting in the development of ganglionic cells (neuro-blasts), which, at the end of three days, have united the axis-cylinders of the central and peripheral portions, while the change of the rows of nerve cells into young nerve fibres sets in between the sixth and the eleventh day. Herr Gluck expressed the hope that his researches might prove to be of considerable practical value. He was able to show animals which, after the nerve-grafting, walked as well as others on which suture of nerves had been practiced long before; while, on the other hand, fowls, from whose sciatic nerves large portions had been simply removed, still remained lame at the end of eight weeks.

— The *Medical Press and Circular* thus crisply tells the story of the recent medico-royal marriage in Germany: "We opine there are few instances on record of members of the medical profession being allied matrimonially with royalty. An instance of this, however, occurred in Germany a few days ago, when Princess Pauline, daughter of the king of Wurtemberg, married, at Carlsruhe, Dr. Wilm, a young medical practitioner of Breslau. It appears that the happy man had been attending professionally, in the absence of his superior, the mother of the princess; the latter became enamored of him, and intimated to her parents her determination to marry him. Consent was obtained only on her renunciation of all the privileges, rights, and honors due to members of royal families. During the performance of the marriage ceremony, to which many princes and princesses lent their presence, the officiating minister took upon him-

self the liberty of lecturing the bridegroom upon the honors and privileges his bride had renounced in order to marry one of so lowly a station, a fact he seemed most anxious to impress upon him. Whereupon the princess, with becoming dignity, effectually obliterated the officious parson by boldly declaring before the assembled guests that, far from being ashamed of the alliance, it was the proudest moment of her life to make so noble a man her husband, and that her present and future happiness was much more precious to her than the supposed privileges she had lost."

NEW YORK.

—The extra corps of fifty physicians, which is annually appointed to visit the tenement houses throughout the city, with the special purpose of caring for the health of the children which swarm in them, commenced their service on the first day of July, and will continue on duty for five weeks. The great advantage of such a systematic visitation of the tenement districts is that cases of disease are frequently detected in their incipency, when there is some chance of affording relief, and as the physicians are provided with tickets for the sea-side sanitarium and the excursions of the St. John's Guild Floating Hospital (thus enabling the children to have that change of air and surroundings which they imperatively need), many lives are no doubt saved by the system. The hot weather prevailing during the last week of June caused a very marked increase in the mortality among young children, which was already unusually high for such an early period of the summer, and therefore all the agencies that can possibly be brought to bear in the matter will be needed to prevent the season from being characterized, as a whole, by a large death-rate.

—In order to render the sanitary condition of the city as excellent as possible, the board of health has commenced a special series of meetings for the discussion of sanitary matters with experts in various departments. The first of these was held on the 29th of June, to consider the extent to which corner lots should be occupied by tenement and lodging houses, including French flats, and representatives of the Society of American Engineers and the Society of Sanitary Reform were invited to be present, and express their views. The next meeting was to be for the purpose of discussing the subject of house-plumbing, in regard to which the health authorities are anxious to have certain reforms made.

—On the 29th of June a certain Dr. S. H. Tanner, of Indiana, commenced, under observation in a public hall, what he claims will be a fast of forty days; but whatever may be the result of this absurd attempt, the fairness of it will always be open to question, since the only medical men in attendance are eclectics and other irregular practitioners. At the time of the commencement of the experiment his weight was one hundred and fifty-seven and one half pounds, his body temperature 99° F., and his pulse 88. By the end of the first forty-eight hours, according to the record, he had lost more than four pounds, and by the end of five days he had lost exactly ten pounds. At this

time his pulse was 80 and his temperature normal. By the end of eight days he showed very great nervous irritability, and even ordinary sounds were so annoying to him that talking in the room had to be forbidden. It then seemed altogether probable that if the attempt were persisted in the man would soon suffer from insane delusions, so that it would become the plain duty of those having the affair in charge to bring it at once to an end. On the morning of the eighth day he walked nine times around the hall, and the pulse was thereby increased from 88 to 116, but three minutes after he ceased walking it had fallen to 96. At six in the evening his temperature was 97.4° F., and at this time he had lost eighteen pounds since the beginning. It was also noticed that there was extreme emaciation of the face and considerable contraction of the pupils, indicating increasing cerebral anæmia.

—The secretary of war has approved the request of the surgeon-general of the Marine Hospital service for the loan of a large hospital tent for use on Bedloe's Island. There are more patients in the hospital building there than can be accommodated, so that the hospital tent is an absolute necessity, and it will be put up in a few days. The Marine Hospital steamer, recently launched at Philadelphia, will be commissioned for service in New York harbor.

—The first recorded birth of a Japanese child in this city was reported to the bureau of vital statistics not long since. The parents are both natives of Nagasaki, Japan, where they were married, and they have been in this country about two years. The happy event was celebrated with festivities, which lasted for three days, when, in accordance with custom, it became necessary to give the infant a name. The manner in which this was done is thus described in one of the daily papers: "It appears that on this subject the parents have little or nothing to say. The Japanese colony assembled in convention at the house of the father, Renzo Yezoye, to perform the important duty. The convention was duly organized and called to order by an excellent but somewhat unpronounceable gentleman, who announced that he was ready to consider propositions having a bearing upon the object in question. The first name suggested was voted down as unfitting, the second as too democratic, and the third as too Christian. A name for the child was not agreed upon the first day, nor the second day, nor the third day, but on the fourth day the opposing factions compromised, and the child was christened (or Japanned, as the case may be) Yasolaro Yezoye. This having been accomplished, the convention adjourned *sine die*."

—Of the National Association for the Protection of the Insane and the Prevention of Insanity, which has just been organized at Cleveland, the following officers are from the State of New York: president, Dr. H. B. Wilbur, superintendent of the Asylum for Idiots at Syracuse; treasurer, Dr. George M. Beard, of New York; members of the council, Drs. Mary Putnam Jacobi and E. C. Seguin, of New York, and Dr. John C. Shaw, of Brooklyn.

Miscellany.

LETTER FROM PHILADELPHIA.

THE DIPLOMA TRAFFIC.

THE prosperity of Philadelphia is so intimately dependent upon its manufactures, for which it has a world-wide reputation, that it is with some concern that we herald the startling fact that an industry which has grown up among us and has existed so long as to be generally regarded as one of our institutions is now threatened with extinction; or at least can in future only be carried on under such restrictions and with such a reduction of income as to be no longer profitable. While the census returns give a most gratifying exhibit of all the other branches of manufacturing, this trade is so seriously crippled by officious and meddling interference as to be at present almost paralyzed, — we refer to the traffic in diplomas. The diploma mills are closed, and are in possession of arbitrary officials of the board of health, while the proprietors are obliged to spend a large part of their time away from their business in hunting up bail to meet the various charges as they are successively brought against them. And yet there are people who say that this is a free country!

In a former communication the announcement was made of the downfall of the Philadelphia University of Medicine and Surgery, under the charge of Dean Miller (now ex-reverend), which was a go-as-you-please institution, with three charters, from which the person paying the money could take his choice, with a license to practice medicine within fifteen minutes of matriculation thrown in. For these unparalleled advantages only a modest charge was made; it is therefore not surprising that quite a number of students, male and female, embraced the opportunity of graduating (?) upon such easy terms; and, since it appears to be the business of no one in particular (nor in general, for that matter) to examine into the qualifications of practicing physicians in Pennsylvania, it is no more surprising that the holders of these diplomas are now engaged in practicing upon a too confiding community. In glancing over the college (!) lists, the names of many prominent peripatetic and advertising doctors are seen; while some are active abortionists, others are temporarily passive, and boarding at the expense of the county in some penal institution. It has been previously noticed by the press that a large number of rascals, indicted in the quarter sessions for criminal malpractice, have diplomas of the now defunct Philadelphia University of Medicine and Surgery.

One of the most thriving of these diploma mills was that known as the Eclectic College, or American University, owned by Dr. Buchanan, who not long since was a porter in an oil-cloth store in this city. A few years ago, being in trouble in connection with the death of a young girl upon whom abortion had been practiced, he left the city and took a tour in Europe for his health, while the court forfeited his bail. He subsequently returned to Philadelphia, where, for the last two years, he has (without further interruption until recently) pursued his business so industriously that when arrested, a few days ago, evidence was discovered in his office of the sale of about three thousand diplomas. This enterprising and interesting individual was apprehended through the efforts of the city editor of the *Public Record*, Mr. John Norris, who also

brought Dean Miller to the bar of justice. Buchanan was first brought before the United States Circuit Court for a violation of the postal laws; and when released on bail he was re-arrested by the local court to answer the old charges. He is now again out on bail, but there are some doubts whether he will remain long enough with us to satisfy any curiosity he may have concerning the possible verdict of a jury. One of the interesting points in this case was the arrest of the so-called faculty of the institution, or at least those who could be found. Among these was Dr. Polk, who reluctantly testified that he delivered lectures at Buchanan's institution last winter.¹

It is a matter of general regret that Dr. Paine, who has been longest engaged in this business, has thus far eluded the clutches of the law; and probably will remain unmolested in his specialties of cancer cured without the knife, consumption cured by ozene inhalations, etc. (which, by the way, must be quite lucrative, if we may judge from the amount of money he spends in advertising). Here is what the report of the legislative investigation committee said about him in 1872: —

"An examination of many witnesses has convinced your committee that the Philadelphia University of Medicine and Surgery, under the management of Dr. William Paine, and the Eclectic Medical College, under the management of Dr. John Buchanan, have for a long time been openly engaged in the sale of diplomas to persons who did not attend even a partial collegiate course, and who, in many instances, were without any medical or scientific attainments whatever.

"It is in evidence that Dr. Paine made an agreement for the sale of diplomas for the consideration of two hundred dollars, conferring the degree of M. D. and LL. D. on a person of whom he knew nothing except the name, and that in pursuance of this arrangement said diplomas were regularly made out and signed. The person named in this instance is said to have been an infant but two years old. It was also proved that Dr. Paine entered into an arrangement with other parties to furnish diplomas for sale. In many instances there was positive proof that he had issued the diplomas of the Philadelphia University of Medicine and Surgery, for a consideration, to persons who had never attended any course of instruction, and to others who had only attended a few lectures in the course, and almost invariably without requiring an examination of the persons so graduated or the writing of a thesis. In a number of cases witnesses testify to having received meritorious degrees in medicine without study, examination, or even payment. An examination of the books of the Philadelphia University of Medicine and Surgery disclosed the fact that many honorary degrees from that institution were disposed of for money, the entries stating specifically the amounts paid for such degrees, and the names of the persons to whom they were sold."

James McShane, the janitor at the college, said he had been offered diplomas, having at one time filled the vacant chairs of three professorships in the institution.

Joseph F. Morong, an herb doctor, received a diploma from Paine's College, although he had never attended a lecture.

The American College of Medicine, which was the

¹ This may be compared, or contrasted, with the ingenious disclaimer upon page 143, last volume.

parent institution of those mentioned above, was incorporated February 26, 1853. Seven years later a supplemental act was passed by the legislature, changing the name to The American College of Medicine in Pennsylvania and the Eclectic Medical College of Philadelphia. It is seen that this is the running title of one institution, and should so appear on all advertisements, announcements, and diplomas, but it suited the purpose of Dr. Paine and his colleagues much better to consider it as a double title, using one or the other according to circumstances. In 1865 an act was passed changing the name again to the Philadelphia University of Medicine and Surgery. Under these three titles this discreditable institution has flourished for fifteen years, openly engaged in the traffic in diplomas. The most difficult thing to understand is the complete indifference manifested by our civil authorities throughout this entire business, until the now famous letter of Minister White and the action of United States Commissioner Eaton compelled them to take some steps in the matter. Now that the *Public Record* has shown us the way, it is seen also that our University of Pennsylvania and Jefferson College, with the aid of the testimony collected by the legislative committee, might have gone into the courts at any time during the last eight years, and have compelled a surrender of the charters under which these diploma mills claimed a legal right for existence. The medical profession has not taken any active measures for two reasons: in the first place, the public have the right to decide what kind of medical attendants they will have, certainly the regular profession has no right to compel them to confine their choice to the graduates of any particular colleges; and, secondly, experience has shown that any steps taken by the profession to protect the public would be misconstrued, and at once inspire the old cry of persecution, and create popular sympathy for the offenders. Moreover, the public is manifestly more deeply interested in this question than physicians are, and it is right and proper that the *exposé* should be made by the public press. Since the closure of Miller's and Buchanan's institutions an electro-pathic college that has been conferring degrees and granting licenses to practice medicine has also been closed by the efforts of the ubiquitous reporter, and several other establishments are threatened with a like fate. The application of a proposed American electro-pathic institute, for the court's approval, of a charter as a medical college, empowered to confer the degree of doctor of medicine, was, last week, refused by Judge Fell, although the offer was made to substitute the words a "degree in electricity" for the "degree in medicine." The agitation of this subject is certainly producing a good effect, and it is barely possible that it may educate our people to such a high standard as to enable us ultimately to have a state board of health. Who can tell?

FAMILY POISONED BY STRAMONIUM.

A family of five persons were poisoned by stramonium in this city a short time since, the stramonium being mistaken for "pick-weed," which is said to be a common article of food in the East, where the people formerly lived. The subjects were all adults, three female and two male, who ate very freely of the weed, which had been boiled as greens for dinner. About half an hour afterwards the ladies complained of ex-

treme thirst and vertigo, with burning sensations in the throat, mouth, and stomach. Subsequently these symptoms were accompanied by partial blindness and difficulty of swallowing. The men were delirious. An active emetic followed by opium relieved the immediate symptoms shortly, but great prostration remained for several days. The sickness was not attributed to the greens until the doctor inquired into the subject.

CHOLERA INFANTUM.

The oppressively hot weather of the last few days has greatly increased the mortality among young children, and a large number of cases of cholera infantum have occurred. Associated with this is the similar condition among adults of cholera morbus, coming on very often without any known error in diet or other assignable cause, beyond the sudden summer heat. This would give some support to the view of an identity in pathological characters between true cholera infantum and cholera morbus, it being conceded that very young children possess far less power of resistance to the disease than do adults. Meteorological conditions, and especially the organic atmospheric impurities, which are greatly increased at this time of year in all large cities, have very much to do with the causation of sporadic cholera, whether in adult or infant. A sustained high temperature is undoubtedly a factor, both directly and indirectly: directly by favoring atmospheric contamination, and indirectly by prostrating the nervous system, reducing those processes whose end is the maintaining of animal heat. Thus by diminishing both nerve force and nutrition heat forms a potent predisposing cause of summer cholera, but we believe that it is not the sole cause of the phenomena in question, as some have maintained.

In a subsequent letter two of our benevolent institutions, the Sick Diet Kitchen and the Philadelphia Society for Organizing Relief and Repressing Mendicancy, both of which are active for good, will be referred to and their methods discussed, which want of space forbids us to enter upon here. W.

LETTER FROM JAPAN.

HUMAN ENDURANCE.

BY J. C. CUTTER, M. D. HARV., PHYSICIAN TO KAITAKUSHI, SAPPORO, JAPAN.

THE Ainos, the Indians of Japan, the people found in "Dai Nippon" at the dawn of history, and now limited to Yesso and Saghalien, are stout, thick-set, very hairy, and with very marked muscular development. They take but little sleep. Their digestive and assimilative powers are most excellent. They require only half as much rice per day as the Japanese coolie (one half *sho* — about three fourths of a quart — instead of a full *sho*), and without making it up with fish or meat the Ainos will do more and endure more hardship. On such a diet they will carry two thirds of their weight upon their backs; will cover eighteen to twenty miles per day through swamps and over hills; will continue such exertions for a series of days, and yet keep their condition, under the influence of an atmosphere surcharged with moisture on a July day.

The Japanese *sendo*, or boatman, upon a diet of boiled rice and weak tea, with pickled *daikon* (a kind

of radish not unlike dock-root) for a relish, will row or pole for hours without intermission. Upon a similar diet, with an occasional bit of dried fish, "Jin-riki" will whirl you along in his two-wheeled "Pullman" at the rate of five to seven miles per hour. These men have been known to draw an adult Japanese gentleman fifty to sixty miles in one day, — the same man going the entire distance. I am credibly informed that a Tokio man drew in his *jin-riki-sha* one man ninety miles in twenty-four consecutive hours.

In Yesso it is of annual occurrence for many persons to lose their way in the forests primeval, in the bamboo thickets, or in the high grass swamps. Lacking means for a fire, no habitation or friendly light for a guide, weary and anxious from vain wanderings, and night coming on, they lie down in the snow and sleep. In the morning their stiffened limbs and their senseless extremities rudely awaken them to their unhappy state and helpless condition. The night's severe cold has driven all vitality from feet and hands. They are unable to travel, — scarcely able to move!

On March 22, 1880, M. Soma, aged fifteen years four months, son of a "farmer soldier" stationed in Sappow, accompanied by two young men of sixteen and eighteen years respectively (as a child in Japan is one year old when born, their ages are fourteen, fifteen, and seventeen of the Western World), left Tsuischari to walk to Sappow, five *ri* (twelve miles). Just before starting out, about twelve m., they partook of a lunch of rice, *daikon*, and tea. Each took with him two haudfuls of cold boiled rice. Soma had in addition enough *shoga* (ginger pickled in plum-vinegar and salt) to serve for relish for two meals. They had no alcohol or tobacco about them. They had no compass or means of making a fire. Each had a small half blanket in addition to the dress of their class in life, that is, a cotton towel over their ears, an under *kimono* (garment like a tunic reaching to the knees, opening in front, with large sleeves into which the hands can be drawn) of simple cotton, a cotton-wadded kimono, and a rough Aino coat made from the inner bark of a forest tree, cotton leggings, cotton *tabi* or shoe socks, and straw sandals.

After coming about half-way, owing to the falling snow, they lost the path, with which they were not familiar. On account of the depth of snow they had become wearied, so they took a brief rest. As evening was rapidly approaching they again endeavored to find the lost trail. After wandering about until tired nature could do no more, until objects were scarcely visible, they sat down upon the snow midst the high swamp grass and ate all the rice they had with them, as well as most of the *shoga*. They soon sank into a deep sleep. That night, according to the records at the weather station, Sappow, the wind was N. N. W. (direct from the ice-bound Gulf of Tartary), minimum temperature 24° F.

In the morning they had no sensation in their feet or legs. They were unable to move from their resting-place. They knew not which way to turn. Their united voices attracted no attention, except of the wolves and crows. On the 23d, 24th, and 25th, they disposed of *all* their food. On the night of the 28th the eldest ceased to speak; his companion could not get to his side. On the next day the middle one spoke his last audible words. From this time Soma lay in the same place, eating snow while it lasted, sipping water out of the adjacent pool, gesticulating and shout-

ing to keep the carnivorous crows from their prey, his companions, having one desire — "to get home;" these occupations filled his conscious hours. On account of the constant pain in his legs, he did not sleep well nights. He heard horses and men pass twice, but could not make his position known.

On the 23d, on account of their non-arrival, parties of the "farmer soldiers" went out daily to scour the woods and swamps for the young men. On the morning of April 19th, attracted by the swarms of crows circling about and perched on the neighboring trees, they found the two dead, and Soma speechless, pulseless, scarcely able to comprehend the saving party, staring at them with a most vacant expression. They crushed some cold rice, added a little pool water, which they placed in his mouth, and a little of it reached his stomach. He was wrapped in blankets, and on a rude blanket litter reached the hospital at five p. m. April 19th, twenty-eight days from the time he left Tsuischari, and twenty-five days since the last *shoga* was eaten. He was found about six *cho* (2160 feet) from the horse path almost daily used.

When he reached the *Biyo-in* he could not speak, opened the mouth with great difficulty, could not project his tongue, which had a white coating. Movements of the chest or abdomen scarcely to be detected; a low respiratory murmur to be heard with the stethoscope; no pulse at the wrists; impulse of heart very feeble; valve sounds indistinct. There was profound torpor of the brain and intellectual faculties. His body was excessively emaciated, fat and flesh had vanished, abdomen was retracted, eyes sunken deep in the sockets. No reflex action of arms or limbs when irritated. The buttocks were black, and had commenced to fall off; the feet were black, and both legs were dead as far as the middle third.

Under the influence of warmth, stimulants, and mild food, the pulse returned to the wrists the next day. Urine passed involuntarily when he came to the hospital. On the third day there was a small black discharge from the bowels. On this day he was able to answer a few questions, but slowly and with a very low and indistinct voice. Since the first week he has steadily improved, intellectually and bodily. The buttocks are now sloughing; the line of demarcation is forming on both legs. His appetite is fair and steadily improving. His wan and vacant look is slowly vanishing. His mind is buoyant.

During these twenty-eight days the lowest daily "minimum" temperature was 18° F.; the average minimum was 33.6° F. The lowest daily "mean" was 26.67° F.; the highest "mean" 47.6° F.; and the average mean 37° F. On six of the days it snowed; on five of them it rained; but few of them were cloudless, genial days.

The young man Soma is of medium stature and weight, of fair physique, and is inured to daily labor and exposure in this northern land. He belonged to the "soldier class." The following are the measurements of forty students in the college here located. Soma was an average young man.

College average: Age, 20.5 years; weight, 52.2 kilos.; height, 1.600 metres; grande envergure 1.597 m. Chest, inspiration .811, expiration .756; fore-arm, .240; arm, .264; leg, .329.

This case is of interest, as showing how long vitality can be prolonged under the influence of exposure, cold, and want of food. It is of interest as showing the

length of time during which existence can be maintained if water alone be taken.

SAPPOW, JAPAN, May 1, 1880.

REPORT OF THE METRIC EXECUTIVE COMMITTEE OF THE AMERICAN MEDICAL ASSOCIATION FOR 1879-1880.

WE are indebted to Dr. E. Seguin, of New York, for the following report:—

At the last session of our meeting at Atlanta, Ga. the following resolutions relative to the metric system were unanimously adopted:—

Resolved, first, that the American Medical Association adopts the international metric system, and will use it in its transactions.

Second, requests that those who present papers at its future meetings employ this system in their communications or reprints thereof.

Third, requests the medical boards of the hospitals and dispensaries to adopt the metric system in prescribing and recording cases, and that the faculties of the medical and pharmaceutic schools adopt it in their didactic, clinical, or dispensing departments.

Fourth, requests the physicians familiar with the metric system to help their *confrères* and the druggists in its application, and the delegates present at this session to work up the acceptance of the metric system by their respective county and state societies.

Fifth, requests our president to name a metric executive committee, of which he shall be the ex-officio chairman, and whose task will be to give unity and rapidity to this metric movement.

Sixth, the committee was composed, besides the ex-officio chairman, of Drs. Edouard Seguin, of New York, Edward Wigglesworth, of Massachusetts, J. R. Weist, of Indiana.

Not to rehearse the causes which have provoked the nomination of this metric executive committee, let us point out the new ones which render a prompt resolution necessary.

Great changes are constantly taking place in our profession. As long as physicians had to deal almost exclusively with quantities sensible to the naked and unaided senses, the duodecimal computation—though tedious and unsafe in complex quantities—could have been serviceable. But now, and every day more and more, the vital questions of our art rest upon the analysis of quantities too small to be appreciated by the senses,—quantities comprehensible and manageable only through the rational uniformity of which the metro-decimal system is the simplest exponent and expression.

We are not alone in this plight. In England, famed old surgeons like Th. Holmes (see his letter of August 4, 1879, in Metric Note No. 7), men in the prime of their talent, like Burdon Sanderson, Sydney Ringer, Ernest Hart, and the younger graduates of the London University Medical College, all agree that the metric system is the future quantitative language of our profession.

We stand about in the same relation to this progress as the English. You have created the present executive metric committee; they have appointed Dr. Clifford Albutt, of Leeds, Dr. Lauder Brunton, F. R. S., Dr. Sieveking, Professor Frazer, Q. V. Edinburgh,

Professor Harvey, University of Aberdeen, Dr. Quain, F. R. S., chairman of the pharmacopœia committee, of the general council, and Mr. Ernest Hart, chairman of council, a committee to report on the means of introducing the metric system in medicine in Great Britain. This committee will report at the next meeting of the British Medical Association in August, as we report to you now. Last year we ran with our English *confrères* the same noble race. Who will reach the goal first this time?

Considering also and above all the home question, any delay in the teaching of the metric system brings up new crops of physicians, who—however capable otherwise—are incapable at first, and soon become unwilling to learn and use the quantitative language common to medicine, chemistry, pharmacy, physics, etc., your metric executive committee submits to your action the following propositions:—

The American Medical Association first recommends the teaching and practice of the metric system in medical colleges, clinics, dispensaries, etc.

Second, charges its executive metric committee with the duty to report annually on the above institutions which teach and those who do not teach the metric system.

Third, authorizes said committee to enter in communication with the metric committee of the British Medical Association, in order to concert such plans as may render the use of the metric system simultaneous and uniform in both countries.

The conclusions of this report were adopted by the American Medical Association at its meeting of June 3, 1880, in New York. THEOPHILUS PARVIN, chairman ex-metric committee, EDWARD WIGGLESWORTH, F. R. WEIST, EDOUARD SEGUIN, secretary.

PROFESSOR VON NUSSBAUM ON PERITONEAL SURGERY.

THE following interesting editorial is from the *Medical Times and Gazette*: Professor von Nussbaum, of Munich, is well known as a bold and fearless operator. He has already introduced many new operations—among others, nerve-stretching and rectotomy—which our forefathers would hear of with something akin to incredulity. Now we find him attempting to remove the pylorus for what was diagnosed as cancer. On cutting down on it, the pylorus, however, proved to be healthy, and the tumor or induration was found to affect the liver. Nothing daunted by the mistake, Nussbaum, who was conducting his operation under the strictest antiseptic precautions, decided to incise the organ and put in a drainage-tube, in the hope that irritative softening might ensue, and so lead to its absorption. It was in an address before the Munich District Medical Society that he referred to this subject and to peritoneal surgery in general. In a manner all his own the celebrated operator contrasted the results of peritoneal wounds under the present methods of treatment with those which were formerly obtained under the older methods. He says (*Aerztliches Intelligenz-Blatt*, January, 1880), "When nowadays one reads that the peritonæum may, fearlessly and with impunity, be punctured, incised, lacerated, bruised, or burnt, provided we keep off all infectious germs, one might be inclined to think that our predecessors had lived

under a gigantic error in regarding abdominal injuries as almost fatally dangerous, while in reality they have proved themselves to be quite unattended with danger, seeing that we now remove from the belly tumors weighing fifty to sixty pounds, the patients scarcely feeling ill the while, and not experiencing either elevation of temperature or even a rise in the pulse-rate." Fortunately the facts are beyond dispute, and yet the older surgeons were nowise in error, for peritoneal wounds were dangerous, and in similar surroundings are so to day. "The difference between the old times and the present simply consists in this: that we have learnt the sources of the danger. An enemy whose strength and position are known is easily overcome."

Among the principal dangers attending this kind of injury must be reckoned, he says, the great susceptibility to the influence of cold which the peritonæum is known to possess. "This enormous, constantly moist surface, when exposed, leads to such a rapid cooling of the blood that immediately reflex paralytic conditions of the heart, and even death, are threatened." The second source of danger is the almost unlimited power of absorption which the peritonæum possesses; and thus any exudation into it which may have undergone unhealthy metamorphosis is liable to bring about rapid and severe septic conditions. Thirdly, peristaltic action, by means of which any exudation that gets into the peritoneal cavity, an enormous surface, is stirred up and smeared over the whole of its contents. Fourthly, movements of respiration, the rise and fall of the diaphragm and small intestine aiding the absorption. Fifthly, peritoneal wounds are dangerous because of the little spaces which everywhere exist, into which secretions may find their way and lie hidden and decompose. And, finally, there is the danger of infection through the ill-smelling intestinal gases, which especially favor sepsis; and, he continues, even if the bowel itself be not injured, gases find their way in or out. Thus it is that the pus of all abscesses forming in the neighborhood of the intestines smell of fecal gases; and not only of gases, for after concussion and its consequent paralysis, owing to the phenomena which attend it, an exosmosis of fluids may actually take place. On the whole, therefore, we see that there were good grounds for the dread which has hitherto always been felt of peritoneal injuries, whether accidental or applied by the surgeon for surgical purposes. Since, however, the causes of this great danger have come to be understood, and the means by which they may be overcome have been learnt, the indications for operation and prognosis afterwards have been greatly modified.

Professor Nussbaum then considers enterotomy and gastrotomy, and the cases in which these operations may be practiced. In speaking of cases of internal strangulation, he said that "thousands now lie in their graves who have died from this distressing disease, while surgeons have stood by as mere lookers-on, unable to help their patients." For although opium could relieve pain for a while, it generally failed to cure the obstruction. And as regards laparotomy, formerly the mortality was seventy per cent.,—that of Littré's operation forty-seven per cent., that of Amussat thirty per cent.,—while those who did recover were, on account of their infirmity, often very miserable and quite unfit to associate in society.

Now, in consequence of greater skill, and of the experience of past operations, the results are much more

favorable. He thinks that a small opening, just large enough to let out faeces, is all that is required at first; for often, after tension of the distended intestines has been relieved, the twist will right itself; or, if the obstruction be due to invagination, the gut will slough and come away. The opening is then allowed to close; but, if a cure cannot be effected, the opening should be enlarged, and a permanent artificial anus established.

As regards gastrotomy, he speaks most hopefully. Quoting some Vienna statistics of cancer, he mentioned that of 903 cases affecting the stomach 542 occurred at the pylorus, and that of these about sixty per cent. offered favorable chances for operative interference. He pointed out that portions of the stomach and pieces of gut had been successfully removed in animals in many instances; and he believed that we were not only justified, but called upon, to operate when circumstances seemed to call for it.

In support of this doctrine he relates the following case: A man, aged fifty-six, was sent to him with what was believed to be a cancerous tumor of the pylorus, and which could be felt as a swelling of the size of an egg over the pyloric region. It was accompanied by intense pain. An indurated cicatrix on the abdominal wall led to the discovery that he had been accidentally injured with a pistol, and it was then thought that the wad might have lodged. After watching the case for a while, it was decided to cut down upon it, and explore, being ready for any eventuality. The lesion proved to be an "inflammatory exudative process" in the liver. It was not sufficiently circumscribed to be removed; and, furthermore, it seemed not to be a deposit in, but rather a part of, the liver. Professor Nussbaum, under these circumstances, put in a drainage-tube, in the hope that absorption of the indurating material might be brought about. The pain almost ceased, and the induration lessened. The patient left the hospital very much better for his operation, but not quite cured. He wrote to his doctor after some time, asking to undergo a second operation, in the hope that he would thus get quite rid of his trouble.

Nussbaum thinks that with antiseptic precautions we shall be able to extend our peritoneal operations to an almost unlimited extent. He believes we may excise the pylorus, when cancerous, with confidence of success. If this should prove to be the case, we have indeed in antiseptics (so called) a valuable addition to surgical science. But we trust that in this, as in other arts, discretion will be regarded as the better part of valor.

CUPRIC TEST PELLETS.¹

BY JOS. NEFF, A. M., M. D.,

Lecturer on Urinary Pathology at the Jefferson Medical College, Philadelphia, etc.

At a meeting of the Clinical Society of London, held January 23, 1880, Dr. Pavy introduced to the notice of the profession a new qualitative test for sugar; strictly speaking, a new form of an old test, for it was nothing more than Fehling's solution transferred into a solid form, but the method of obtaining this form was not explained.

As is well known, of all the tests for sugar in the

¹ From the Medical and Surgical Reporter. Exhibit to the Philadelphia Pathological Society, March 25, 1880.

urine the copper tests are the best, at least when delicacy and precision are aimed at. The best of these are Fehling's or Pavy's solution, which contain cupric sulphate in combination with an alkaline tartrate, and in such a condition that when brought in contact with grape sugar, at a temperature of 100° C. (212° F.), the cupric salt is reduced to its lower oxide (cuprous oxide).

These solutions, although of well-attested value, have one great objection, namely, the change which takes place when kept for any length of time, or when light and air have access to the fluid. This change allows the cupric sulphate in solution to become deoxygenized when the fluid is boiled without necessarily the presence of sugar. Another slight objection is that the stopple of the bottle in which the solution is kept is apt to become fixed unless in constant use.

These points were given by Dr. Pavy as his reasons for undertaking the incorporation of the ingredients of the ordinary test solution into a solid and permanent form, and at last, after many fruitless attempts, his efforts have been crowned with success, as shown by the presentation of his "cupric test pellets" to the society, as above stated.

The great practical use of these pellets at once suggested itself to me, and I endeavored to have some made in this country, that their use might be made practicable without the great expense of importation.

In the report of Dr. Pavy's remarks,¹ no mention is made of any formulæ, so it is fair to suppose that the doctor himself was ignorant of the processes by which he arrived at the result, stating that "his chemist surmounted all obstacles," etc. Therefore it is impossible for me to say whether the pellets to which I now call attention are made in the same manner as the English. I suggested the idea to Mr. McKelway, chemist, of Philadelphia, having first called his attention to the matter, and desired him to make the necessary experiments, in which he has been so successful, and it is through his aid I can now present to the profession the "cupric test pellets," being not only a convenient and practical means for detecting the presence of sugar in the urine, but also one for obtaining the exact amount,—a quantitative, consequently, as well as a qualitative test.

Qualitative.—For detecting the presence of sugar proceed as follows: Place a pellet in a test tube, add a small quantity of water (better distilled), heat until perfect solution is obtained, when a clear, deep blue fluid will be the result. Then proceed in the same manner as when using Fehling's solution,—for, in fact, it is now almost identical with it,—add a few drops of the suspected urine, and if glucose be present, upon boiling, the cupric sulphate which is held in solution becomes deoxygenized by the sugar present, and we have the cuprous or sub-oxide, which shows itself by the change in color, first as a yellowish precipitate, due to the hydrated sub-oxide, which subsequently loses its water and becomes the red sub-oxide.

Precautions.—The same precautions are of course necessary here as when using any of the copper tests. The English pellets, up to this time, have been prepared only for qualitative analysis; we have therefore advanced a step in being able to determine the amount as well, as each pellet represents accurately five milligrams of grape sugar.

Quantitative.—The quantitative analysis is per-

formed by the volumetric process in the same manner as with the ordinary copper test solutions.

The only simplification by using the pellet in this form of analysis is that it does away with the necessity of measuring or weighing, which is necessary when either Pavy's or Fehling's solution are employed.

Approximative.—With this new form of test a very accurate approximate result can be arrived at, which is practicable, simple, and requiring but a few moments for its accomplishment, and will doubtless meet a long-felt want to the busy practitioner, who may not have a laboratory at his disposal, or the time required for quantitative analysis by the ordinary methods.

Allow the urine to be tested to drop slowly into a large test tube, containing one cupric pellet in solution, at a boiling temperature, until the cupric sulphate is entirely deoxygenized, which will be known by the disappearance of the blue color. Now, as the amount of sugar required to accomplish this result is known, the only thing that remains is to have some means of determining the quantity of urine used. This can be done by using a graduated pipette or minim glass.

It may be mentioned here that it is better to dilute the urine, as then the test becomes more accurate, and the precise moment when the blue tint leaves can be readily determined.

Example.—For example, fill a pipette graduated in cubic centimetres with a solution of one part urine to nine parts distilled water. Then keeping the test solution (one pellet having been dissolved) at a boiling point, over a spirit lamp, allow the diluted urine to flow slowly into the test tube until all blue disappears, when a glance at the pipette will indicate that it has taken, for example, 10 cc. to accomplish this; therefore 10 cc. of diluted urine represents 5 milligrams of diabetic or grape sugar, but as only one tenth or 1 cc. of this solution was urine, then in 1 cc. of urine examined there is .005 gram of sugar. If in 1 cc. of urine there is .005 gram of sugar, in 1000 cc. of urine there must be $1000 \times .005$ gram, or 5 grams. In this way, with a little calculation, the amount of sugar in any given quantity of urine can easily be determined. If a minim glass is used it is only necessary to substitute the word minim for cubic centimetre.

By using a little precaution, keeping the pellets in a well-stoppered bottle, free from moisture, they may be kept for an indefinite time. It is better to avoid shaking them too much, as the edges may become broken and interfere with the accuracy required for quantitative analysis.

Before closing I must mention that Dr. H. G. Piffard² has suggested, under the title of A New Glycosuric Reagent, a pasty mass containing cupric sulphate, crystallized tartrate of sodium and potassium, and sodic hydrate, which is said to remain permanent. But here again we have a qualitative test only.

—The *Wiener Med. Wochenschrift*, No. 13, 1880, gives the following anecdote: A poor woman at Prishtina, not far from the Servian frontier, was in the pains of labor for three days, but to no purpose. In her perplexity she seized her husband's razor, cut open her abdomen and uterus, and got a neighbor to sew her up again, after the removal of the child! And now, after several months, mother and child are doing perfectly well.

¹ British Medical Journal, February 7, 1880.

² New York Medical Record, March 23, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 3, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	1297	863	54.04	48.26	4.77	2.38	.61
Philadelphia.....	901,380	609	368	5.74	—	1.64	1.64	1.97
Brooklyn.....	564,400	466	326	56.65	51.71	4.07	.85	.85
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	162	101	33.33	25.92	5.55	.61	.61
Baltimore.....	393,796	208	117	44.23	35.09	2.40	.96	2.40
Boston.....	365,000	169	79	27.81	18.75	6.51	5.32	—
Cincinnati.....	280,000	105	49	30.47	17.14	8.57	2.85	.95
New Orleans.....	210,000	112	49	30.35	21.43	4.46	.89	—
District of Columbia.....	170,000	106	61	32.07	22.64	3.77	—	.94
Buffalo.....	—	32	12	34.37	21.88	6.25	—	3.12
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	75	62	56.00	38.66	5.33	5.33	2.66
Milwaukee.....	127,000	43	29	16.28	9.30	9.30	2.32	—
Providence.....	102,000	51	19	17.64	9.80	15.68	—	5.88
New Haven.....	60,000	43	25	55.81	39.53	6.99	4.65	—
Charleston.....	57,000	46	25	17.39	15.21	—	—	—
Nashville.....	37,000	18	15	61.11	16.66	5.55	—	5.55
Lowell.....	54,000	30	17	26.66	23.33	10.00	3.33	—
Worcester.....	53,000	30	16	36.66	23.33	3.33	—	—
Cambridge.....	50,400	24	11	29.16	29.16	—	—	—
Fall River.....	49,000	39	20	30.76	28.20	2.56	—	—
Lawrence.....	38,600	19	12	15.79	15.79	21.05	—	—
Lynn.....	34,000	15	3	26.66	6.65	—	—	—
Springfield.....	31,800	13	9	7.69	7.69	—	—	—
New Bedford.....	27,200	11	5	45.45	19.09	—	9.09	18.18
Salem.....	26,500	5	2	20.00	—	20.00	—	—
Somerville.....	23,500	12	7	41.66	25.00	16.66	—	—
Chelsea.....	21,000	3	—	—	—	—	—	—
Taunton.....	20,200	—	—	—	—	—	—	—
Holyoke.....	18,400	14	11	50.00	42.85	—	—	—
Gloucester.....	17,300	5	1	20.00	—	—	20.00	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	5	—	20.00	—	—	—	—
Newburyport.....	13,500	5	1	20.00	20.00	—	—	—
Fitchburg.....	12,600	4	2	50.00	—	—	25.00	—
Eighteen Massachusetts towns.....	141,960	59	22	16.10	5.08	6.78	5.08	—

Deaths reported, 3835; 2339 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fever) 1484, diarrhoeal diseases 1204, consumption 342, lung diseases 172, diphtheria and croup 75, scarlet fever 41, malarial fevers 38, whooping-cough 35, measles 31, typhoid fever 26, erysipelas 17, cerebro-spinal meningitis 16, small-pox one. From *malarial fevers*, Brooklyn nine, New York six, St. Louis and New Orleans five, District of Columbia four, Baltimore and New Haven three, Charleston, Nashville, and Worcester one each. From *whooping-cough*, New York nine, Nashville six, Philadelphia five, Baltimore and Pittsburgh three, Brooklyn, St. Louis, and Boston two, New Orleans, District of Columbia, and Salem one. From *measles*, Cincinnati eight, Pittsburgh four, New York and Brooklyn three, Boston, New Orleans, and Milwaukee two, Baltimore, New Haven, Worcester, Fall River, Somerville, Haverhill, and Chicopee one. From *typhoid fever*, Baltimore five, New York and District of Columbia four, Philadelphia, St. Louis, Boston, Cincinnati, and Marlborough two, New Orleans, Buffalo, and New Haven one. From *erysipelas*, New York six, Philadelphia four, Buffalo two, Brooklyn, Providence, Lynn, Somerville, and Fitchburg one. From *cerebro-spinal meningitis*, New York eight, Worcester and Lynn two, Philadelphia, St. Louis, Holyoke, and Pittsfield one. From *small-pox*, Philadelphia one.

Seventeen cases of diphtheria, 20 of measles, 13 of scarlet fever, three of whooping-cough, and one of typhoid fever were reported in Brooklyn; 18 of diphtheria and eight of scarlet fever in Boston; eight of diphtheria and six of scarlet fever in Milwaukee; five of diphtheria, 12 of measles, 10 of scarlet fever, one of typhoid fever, four of diarrhoeal diseases, in Providence; four of diphtheria and two of scarlet fever in New Bedford.

Total number of deaths again increased, two thirds of the increase being among those under five years of age; deaths from diarrhoeal diseases again largely increased, 626 out of a total of 1204 being in New York, this city and Brooklyn furnishing

867 deaths under five years of age. In 35 cities and towns of Massachusetts, with an estimated population of 993,110 (population of the State about 1,690,000), the total death-rate for the week was 23.98 against 20 and 15.89 for the previous two weeks.

For the week ending June 12th, in 148 German cities and towns, with an estimated population of 7,678,900, the death-rate was 29. Deaths reported, 5437; 2319 under five: pulmonary consumption 561, acute diseases of the respiratory organs 362, diphtheria and croup 115, scarlet fever 105, measles and *rötheln* 73, typhoid fever 57, whooping-cough 39, puerperal fever 21, typhus fever (Königsberg two, Elbing, Magdeburg, Braunschweig two, Dortmund, Berlin seven) 14, small-pox (Thorn, Königshütte three, Berlin, Görlitz, Elberfeld, Mainz), eight. The death-rates ranged from 16.3 in Erfurt to 40.2 in Königsberg; Breslau 32.8; Munich 35.1; Dresden 25.3; Berlin 26.6; Leipzig 23.1; Hamburg 26; Hanover 22.2; Bremen 20.4; Cologne 30.1; Frankfurt 17.5; Strasburg 25.2. For the same week, Vienna 31.3; Paris 27.1.

For the week ending June 19th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 18.9. Deaths reported, 2717: acute diseases of the respiratory organs 198, scarlet fever 134, whooping-cough 118, measles 55, diarrhoea 51, fever 41, diphtheria 14, small-pox (all in London) six. The death-rates ranged from 12 in Portsmouth to 27 in Nottingham and Liverpool; London 17.7; Bristol 19; Birmingham 18; Manchester 21. In Edinburgh 19, Glasgow 22, Dublin 39.

In the 20 chief towns in Switzerland for the week ending June 19th, population 445,790, there were 21 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 19, diphtheria and croup 12, measles nine, scarlet fever five, typhoid fever three, small-pox one. Death-rate of Geneva 25.1; of Zurich 26.2; Basle 17.3; Bern 30.7.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in Inches.
June 27	29.923	77	93	69	44	42	56	47	W	E	O	2	10	0	C	F	F	—	—
" 28	29.749	81	91	68	72	56	63	63	S	SW	SW	1	12	8	T	T	F	—	—
" 29	29.824	81	92	71	78	39	57	58	W	W	W	10	15	1	T	C	C	—	—
" 30	29.916	78	88	69	90	45	52	62	S	W	SW	5	14	3	O	T	C	—	—
July 1	30.015	78	89	63	58	31	64	51	W	W	SW	4	13	6	C	F	O	—	—
" 2	29.803	63	74	61	94	100	100	98	E	NE	NE	4	12	11	R	R	R	—	.77
" 3	29.863	63	66	60	100	89	89	92	NE	E	N	1	1	4	R	O	O	—	.35
Week.	29.870	74	92	60				68										14.45	1.12

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 3, 1880, TO JULY 9, 1880.

BYRNE, C. C., major and surgeon. Assigned to duty as post surgeon at Angel Island, Cal., relieving Assistant Surgeon Hubbard. S. O. 93, Division of the Pacific and Department of California, July 1, 1880.

HUBBARD, VAN B., captain and assistant surgeon. Assigned to duty as post surgeon at Alcatraz Island, Cal. S. O. 93, C. S., Division of the Pacific and Department of California.

BARTHOLOF, J. H., captain and assistant surgeon. Assigned to duty at Fort Coeur d'Alene, Idaho Territory. S. O. 103, Department of the Columbia, June 19, 1880.

WINNE, C. K., captain and assistant surgeon. To report in person to commanding general, Department of the East, for assignment to duty. S. O. 148, A. G. O., July 6, 1880.

DE LOFFRE, A. A., captain and assistant surgeon. Assigned to duty as post surgeon camp on White River, Colo. S. O. 144, Department of the Missouri, July 5, 1880.

COMEGYS, E. T., captain and assistant surgeon. Relieved from duty in Department of Texas, to proceed to Cincinnati, Ohio, and report arrival there by letter to the surgeon-general. S. O. 148, C. S., A. G. O.

REED, W., captain and assistant surgeon. His leave of absence extended one month. S. O. 146, A. G. O., July 6, 1880.

The following named assistant surgeons, recently appointed, will report in person to the commanding generals of the departments set opposite their respective names: R. G. EBBET, Department of the Columbia. R. J. GIBSON, Department of the Missouri. R. B. BENHAM, Department of Dakota. W. C. GORGAS, Department of Texas. NORTON STRONG, Department of the Platte. A. W. TAYLOR, Department of the Missouri. S. O. 149, A. G. O., July 7, 1880.

O'REILLY, R. M., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability, with permission to leave the department. S. O. 73, Department of the South, June 18, 1880.

BOOKS AND PAMPHLETS RECEIVED.—Treatise on Therapeutics. Translated by D. F. Lincoln, M. D., from the French of Trousseau and Pidoux. Vol. I. Wood's Library of Standard Authors. New York: William Wood & Co. 1880.

Lessons in Gynecology. By William Goodell, A. M., M. D. Second Edition. Philadelphia: D. G. Brinton.

Wood's Library of Standard Medical Authors. The Surgery, Surgical Pathology, and Anatomy of the Female Pelvic Organs. By Henry Savage, M. D. Lond. Third Edition. New York: William Wood & Co. 1880.

Eleventh Report of the State Board of Health of Massachusetts for the Six Months ending June 30, 1879. Boston: Rand, Avery & Co. 1879.

The Fifth Annual Report of the State of the Lunatic Asylum for the County of Nottingham, and the Sixty-Ninth of the Original Institution, formerly the General Lunatic Asylum. 1879. Southwell: John Whittingham. 1880.

The Irritable Bladder in the Female. By L. S. Oppenheimer, M. D. (Reprint.)

School Document No. 13. Report of the Examination of Twenty-Seven Thousand Nine Hundred and Twenty-Seven School Children for Color-Blindness. By B. Joy Jeffries, A. M., M. D. Boston: Rockwell and Churchill. 1880.

Kolpo-Cystotomy by Electro-Cautery, with Remarks on other Methods of Operating. (Reprint from Gynecological Transactions.) Also, Contributions to Gynecology, No. X. (1.) Fibro-Sarcomatous Tumor of the Uterus. (2.) Cancer of Rectum. By John Byrne, M. D. The latter published by G. P. Putnam's Sons, New York.

An Inquiry into Certain Points connected with Albuminuria. By Robert Saundby, M. D. Edin. London: British Medical Association.

Salicylate of Sodium in the Treatment of Iritis. By Julian J. Chisholm, M. D., Professor of Eye Diseases, University of Maryland. (Reprint from Archives of Ophthalmology, Vol. IX. No. 2.)

On Division of the Sphincter Ani Muscle as a Therapeutic Measure. By C. B. Kelsey, M. D. New York: Appleton & Co. 1880.

Clinical Notes on the Elongation of the Cervix Uteri. By William Goodell, A. M., M. D. (Reprint from Vol. IV. Gynecological Transactions, 1880.)

The Therapeutic Value of the Iodide of Ethyl. By Robert M. Lawrence, M. D., Boston. (From the New York Medical Record.)

Impotency in Women. By Ely Van de Warker, M. D. New York: William Wood & Co.

The Practitioner's Reference Book. By Richard J. Dangleison, A. M., M. D. Second Edition, revised and enlarged. Philadelphia: Lindsay and Blakiston. 1880.

Second Annual Report of the State Board of Health of the State of Rhode Island. Providence: E. L. Freeman & Co., Printers.

The Population Question, or the Mortality of the Rich and Poor. Paper read before the Medical Society of London. By Charles R. Drysdale, M. D. London: G. Standing. 1879.

Prolapse of the Ovaries. By Paul F. Maudé, M. D. (Reprint from Vol. IV. Gynecological Transactions.)

Neuralgia, its Nature and Curative Treatment. By Thomas Stretch Dawse, M. D. New York: G. P. Putnam's Sons. 1880.

Contributions to Orthopædic Surgery, including Observations on the Treatment of Chronic Inflammation of the Hip, Knee, and Ankle Joints by a New and Simple Method of Extension, the Physiological Methods, and Lectures on Club-Foot. By Joseph C. Hutchinson, M. D. New York: G. P. Putnam's Sons. 1880.

Lectures.**III. THE CLASSIFICATION OF MENTAL DISEASES.**

A LECTURE DELIVERED BEFORE THE GRADUATING CLASS OF THE HARVARD MEDICAL SCHOOL.

BY CHARLES F. FOLSOM, M. D.

CONSIDERING the difficulty of describing the various diseases underlying insanity, and the impossibility, at present, of accurately and exactly understanding its pathology, that is, of knowing to just what deviation from the normal physiological action of the brain insanity is due, it would be natural to suppose that there would be no classification of mental diseases universally accepted by writers on insanity. Indeed, were I to attempt simply to give you a catalogue of the various nomenclatures adopted by men who are still read and accepted as authorities on insanity, I should only weary your patience to no purpose. All these systems, however, may be grouped under six heads, according as the classification is made with reference to: (1.) The causes of the disease. (2.) The functions of the mind involved. (3.) The symptoms. (4.) The pathology. (5.) The clinical history. (6.) The clinical history and pathology.

(1.) The classification according to the causes of the insanity was suggested by Morel, of Paris, and fully elaborated by the late Dr. Skae, of Edinburgh, who recognized the impossibility of an accurate pathological nomenclature, and who wished for something to express as fully as possible the natural history of the disease. He makes some thirty diseases, as follows: (1.) Moral idiocy. (2.) Intellectual idiocy. (3.) Moral imbecility. (4.) Intellectual imbecility. (5.) Epileptic insanity. (6.) Insanity of masturbation. (7.) Insanity of pubescence. (8.) Hysterical mania. (9.) Amenorrhœal mania. (10.) Post-connubial mania. (11.) Puerperal mania. (12.) Mania of pregnancy. (13.) Mania of lactation. (14.) Climacteric mania. (15.) Ovario and utero mania. (16.) Senile mania. (17.) Phthisical mania. (18.) Metastatic mania. (19.) Traumatic mania. (20.) Syphilitic mania. (21.) Delirium tremens. (22.) Dipsomania. (23.) Mania of alcoholism. (24.) Post-febrile mania. (25.) Mania of oxaluria and phosphaturia. (26.) General paralysis. (27.) Epidemic mania. (28.) Idiopathic athenic mania. (29.) Idiopathic asthenic mania.

The faults of this system are self-evident. In the first place, it is cumbersome and unwieldy, and overburdens the mind and the literature of insanity with a number of useless names. In the second place, it is not accurate. For instance, suppose that a number of persons are exposed to cold and dampness; one has influenza, another rheumatism, another neuralgia, and another pneumonia. Now, if we adopted Skae's system of classification, we should be driven to the absurdity of calling influenza, rheumatism, neuralgia, and pneumonia the same disease, for the reason that they were apparently due to the same immediate cause. Again, there would be just as much sense in speaking of amenorrhœal pneumonia, post-connubial pneumonia, puerperal pneumonia, and pneumonia of pregnancy or lactation as there is in amenorrhœal insanity, post-connubial insanity, puerperal insanity, and insanity of pregnancy or lactation. There may be no real difference in the disease in either case so marked as to

make it a diagnostic sign. Indeed, — Pocasset homicide case, for instance, — Freeman's father was addicted to constant excess in alcoholic liquor and sexual gratification, and this son was born one of the last of his children, when the mental constitution had been long shattered by his method of life, so that Freeman inherited a strong predisposition to mental disease. From the age of fifteen he served in the army as a drummer boy, — weakened by exposure, long marches, and occasional attacks of dysentery. During the latter part of the period of adolescence he had an attack of diphtheria, and also broke down from overwork. Later he had a mild sunstroke. He had exposed himself to and had caught the infection of intense religious excitement. He had given up a life of great activity to live in a dull little settlement of three hundred and fifty or four hundred people, where he was driven to introspection. He became exhausted from his religious fanaticism, and was near that age in life when insanity is most common. What should we call his case under Skae's system, — hereditary insanity, insanity of exhaustion, religious mania, or insanity following a sunstroke?

The difference in the insanity as manifested in the different cases under consideration is not necessarily sufficient for its diagnostic differentiation. So, too, if we put a case of syphilitic mania beside another of traumatic mania, it would be impossible to diagnosticate between them, unless we were told what was the supposed cause in each case. The third objection to Skae's classification is that, on his own theory, it does not cover enough ground. For instance, it is just as proper, and indeed necessary, to have a post-studium as a post-connubial insanity; for the exhaustion of over-study is oftener a proximate cause of insanity than the immediate results of marriage. The fourth objection to Skae's classification is that it is not definite. In a large proportion of cases, making out the causes of insanity is very difficult indeed, and often it is impossible. Indeed, not seldom the causes are so many and so complex that it is not within human power to say which of a number of causes has been the most important.

In Skae's system, therefore, there must always be a large number of cases which cannot be classified at all, but must be left out as unclassified, — a serious fault, certainly. This system has been adopted to a certain extent in Great Britain, but not universally.

The second classification of mental diseases, according to the functions interfered with, is that adopted by Dr. Bucknill; not because he considers it satisfactory, but because it on the whole defines each disease more closely according to the functions of the brain involved, and therefore explaining the morbid condition, as shown by the most apparent phenomena of the disease.

According to Dr. Bucknill, we have: —

- (1.) Insanity of the intellect or the ideas.
- (2.) Insanity of the feelings and moral sentiments.
- (3.) Insanity of the instincts, propensities, or desires.

This has the merit of simplicity, and is enormously in advance of the clumsy classification of Skae. Dr. Bucknill further subdivides his three classes as follows: —

- (1.) Insanity of the intellect or ideas: —
Idiocy.
Imbecility.

Dementia.
Delusional insanity.
Monomania.
Mania.

(2.) Insanity of the feelings and the moral sentiments :—

Moral imbecility.
Moral insanity.
Melancholia.
Religious insanity.
Hypochondriacal insanity.
Nostalgic hypochondriacal insanity.

Exaltation regarding :—

Religion.
Pride.
Vanity.
Ambition.

(3.) Insanity of the propensities, instincts, or desires :—

Mania.
Homicidal mania.
Suicidal mania.
Erotomania.
Dipsomania.

This might be called a more purely psychological classification, that is, upon a metaphysician's basis, and in cases before the courts it has its advantages in helping one to make up his mind with regard to the amount of responsibility of a given person; but to the pure physician it has grave disadvantages, for it does not represent the pathological condition of the disease, its clinical history, nor even its prominent symptoms. I think I can make my point clear most easily by using the diseases of the chest as an example. You can easily see what confusion would arise, and how false our ideas of diagnosis, prognosis, and treatment would be, if we classified them something like this, according to the functions disturbed :—

(1.) Diseases causing difficulty in swallowing. (2.) Diseases causing difficulty in breathing. (3.) Diseases hastening breathing. (4.) Diseases retarding breathing. (5.) Diseases causing dyspnoea. (6.) Diseases causing palpitation. (7.) Diseases causing pain. (8.) Diseases causing lividity, etc.

It is only necessary to point out the exact bearing of such a classification to show its unsatisfactory character.

The third classification and that most generally adopted is according to symptoms; it is almost universally used, more or less modified, in Germany, generally in France, and more commonly than any other in this country and in England. It has been suggested by different writers in a dozen different forms, differing only in details, so that I will not burden you with them all, but only give Griesinger's, which has stood the test of the longest period of time, and which seems to me altogether the best.

His divisions are as follows :—

(1.) States of mental depression. (2.) States of mental exaltation. (3.) States of mental weakness.

These he subdivides as follows, without attempting to refer his sub-classes to pathological conditions of the brain, or to discriminate between the various faculties involved :—

(1.) Mental depression :—
Hypochondriasis.
Melancholia, simple.
Melancholia with stupor.

Melancholia with destructive tendencies.

Melancholia with persistent excitement of the will or impulse (moral insanity).

(2.) Mental Exaltation :—

Mania.
Monomania.

(3.) Mental weakness :—

Chronic mania.
Dementia.
Idiocy.
Cretinism.

As important complications of insanity he places general paralysis of the insane and epilepsy, and then various disorders of sensation and movement, such as convulsive gait, general cramps, choreic movements, hyperæsthesia of the skin, etc.

The fourth system of classification, according to the morbid condition of the brain, has thus far proved unsuccessful, so far as definite results are concerned. Up to the present time this remains largely a field of speculation, and although, with the immense progress of the past dozen years, we cannot help hoping that continued progress will finally place the pathology of the brain as affecting the mind on a similar footing with the pathology of the heart and lungs, yet this is a subject upon which there is now so little definite to be said that I should not be justified in further taking your time, in a short course of lectures, in enlarging upon what I have already said upon that point in this and the preceding lectures.

In basing his nomenclature on the clinical history of the various forms of insanity, Dr. Clouston, of Edinburgh, has somewhat enlarged, and I think improved, Griesinger's classification, as follows :—

(1.) States of mental depression (*melancholia, psychalgia*): (a.) Simple melancholia. (b.) Hypochondriacal melancholia. (c.) Delusional melancholia. (d.) Excited melancholia. (e.) Suicidal and homicidal melancholia.

(2.) States of mental exaltation (*mania, psychlampsia*): (a.) Simple mania (*folie raisonnée*). (b.) Acute mania. (c.) Delusional mania. (d.) Chronic mania.

(3.) States of regularly alternating depression and exaltation (*folie circulaire, psychorhythm, folie à double forme, circular insanity, periodic mania, recurrent mania*).

(4.) States of fixed and limited delusion (*monomania, monopsychosis*): (a.) Monomania of pride and grandeur. (b.) Monomania of unseen agency. (c.) Monomania of suspicion.

(5.) States of mental enfeeblement (*dementia, amnesia, psychoparesis, congenital imbecility, idiocy*): (a.) Secondary (ordinary) dementia (*following acute or subacute disease ending in chronicity*). (b.) Primary enfeeblement (imbecility, idiocy, cretinism) *the result of deficient brain development, or of brain disease in very early life*. (c.) Senile dementia. (d.) Organic dementia (*the result of organic brain disease*).

(6.) States of mental stupor (*stupor, psychocoma*): (a.) Melancholic stupor, "melancholia attonita." (b.) Anergic stupor, "primary dementia," "dementia attonita." (c.) Secondary stupor (*transitory after acute mania*).

(7.) States of defective inhibition (*psychokinesia, hyperkinesia, impulsive insanity, volitional insanity, uncontrollable impulse, insanity without delusion*): (a.) Homicidal impulse. (b.) Suicidal impulse. (c.) Epi-

leptiform impulse. (d.) Animal impulse. (e.) Dipso-mania. (f.) Pyromania. (g.) Kleptomania. (h.) Moral insanity.

(8.) The insane diathesis (*psychoneurosis, neurosis insana, neurosis spasmodica*).

No great advance, however, has been made in this branch of mental science, except in Germany, since the time of Griesinger, who, before he was thirty years of age, and while assistant in an insane asylum, wrote a treatise on insanity, which for twenty years remained the first in any language. The German mental pathologists have endeavored to combine in their classification the clinical history with the little that is known of its morbid anatomy. Meynert has gone so far in this direction as to have constructed an ideal mental pathology of great exactness, but, unfortunately, belonging to the sphere of brilliant speculation rather than exact science. Schüle, in his recent work, has well summarized our knowledge on these points, and has made the following classification, which keeps within the bounds of our definite knowledge, and at the same time recognizes all that is at present certain in the relations of pathological conditions to mental disease:—

I. States of mental defect or degeneration:—

(1.) States of mental defect:—

(a.) Microcephalism.

(b.) Idiocy.

(2.) States of mental degeneracy, chiefly as the result or further development of

(a.) Hereditary insanity.

Impulsive insanity.

Moral insanity.

(b.) Insanity from the severe neuroses.

Epileptic insanity.

Hysterical insanity.

Hypochondriacal insanity.

(c.) Periodic and circular insanity.

II. Insanity in persons of full mental and physical development:—

(A.) The cerebral neuroses causing mental disease, affecting primarily the intellect alone (*psychoneuroses*).

(1.) The acute or subacute typical cerebral neuroses in healthy neurotic persons, and with a vaso-motor origin.

(a.) Primary form:—

Melancholia.

Melancholia agitata.

Acute mania.

(b.) Secondary form:—

Chronic mania and monomania.

Dementia.

(2.) The chronic cerebral neuroses giving rise to mental disease, founded on degeneration, and of neurotic origin primarily (*delusional insanity*).

(a.) Primary mania of persecution, with a condition of pure depression, with exaggerated and exalted ideas.

(b.) Delusional insanity, strictly speaking, psycho-convulsive form (*maladie du doute*), psycho-cataleptic form (*delusional insanity attended with anomalies of sensation*).

(B.) The organic mental diseases affecting intellectual and psychic functions (*cerebro-psychoses*), differing from (A) chiefly in being deeper seated.

(1.) With motor symptoms of excitement (*acute mania*).

(a.) "Mania furiosa" (including "mania transitoria").

(b.) "Mania gravis."

(c.) Acute delirious mania.

(2.) With motor neuroses and symptoms resembling catalepsy, tetanus, and anergic stupor, or the various forms of *Spannungsneurosen*.

The states of mental stupor:—

(a.) "Melancholia attonita."

(b.) Delusional stupor.

(c.) Primary dementia (stupor).

Acute.

Chronic.

(3.) With progressive paralysis. The typical form of paralytic dementia.

(C.) The distinct lesions of the brain giving rise secondarily to psychical disturbances. The modified paralyzes, or cerebral diseases, in which dementia and paralysis are both observed clinically.

(a.) Meningo-periencephalitis, chronic and sub-acute.

(b.) Pachymeningitis and hæmatoma.

(c.) Diffuse encephalitis with sclerosis, without mental excitement; with mental excitement.

(d.) Diffuse encephalitis with local softening, apoplexy, capillary aneurisms in groups or singly; multiple sclerosis.

(e.) Diffuse encephalitis arising from foreign growths in the brain.

(f.) Chronic periencephalitis with previous *tabes dorsalis*; tabic paralysis.

(g.) Primary atrophy of the brain with accompanying spinal tabes; tabic dementia.

(h.) Syphilitic encephalitis with disturbances of the mind.

When we consider that in the early part of this century, two generations after John Hunter, Heinroth, then the first clinical instructor of mental disease in Germany, taught that insanity is the result of wrongdoing and sin; that a conscious neglect of God's will is its source; that the best treatment consists in a pious life, giving one's self up to God and all that is good; and that the only means of prevention of insanity is the Christian religion, it must be acknowledged that an immense advance has been made in the knowledge of mental diseases, perhaps not inferior to the progress in other branches of medical science.

Original Articles.

PYÆMIA OF DOUBTFUL ORIGIN; APPARENTLY "SPONTANEOUS."¹

BY CHARLES H. COOK, M. D., OF NATICK.

IN the Transactions of the Pathological Society of London for the year 1879 is the report of the Committee appointed by the Society to investigate the Nature and Causes of those Infective Diseases known as Pyæmia, Septicæmia, and Purulent Infection.

One feature of the report is an Inquiry whether Pyæmia and Septicæmia can be sharply defined from Each Other.

The authorities cited under this head may be divided into three classes:—

(1.) Those who recognize no essential difference between septicæmia and pyæmia.

¹ Read before the Massachusetts Medical Society at its annual meeting, and recommended for publication by the society.

(2.) Those who distinguish between septicæmia and pyæmia, but recognize only one form of septicæmia; and even they differ among themselves as to whether septicæmia is or is not an infective disease.

(3.) Those who define sharply between septicæmia and pyæmia, and also recognize two separate and distinct conditions as existing, to which the term septicæmia is applied; to distinguish these two conditions they would employ the terms used by some of the German writers, and give to one the name of septic or putrid intoxication, and to the other septic or putrid infection.

Another feature is the careful study of the records of seven hundred and sixty-eight cases of pyæmia and septicæmia which occurred in the principal London hospitals during the ten years preceding.

As the results of the study of the records of these cases, together with an analysis of the views of the authorities cited, the committee present a "summary," from which I make the following extracts.

"It would seem probable that the diseases known clinically as pyæmia and septicæmia may be grouped as follows:—

(1.) "*Septic Intoxication*. The effects of poisoning by the chemical products of putrefaction. A non-infective disease.

(2.) "*Septic Infection*. A general infective process arising from the introduction of some peculiar constituent of putrid matter into the blood stream. It is supposed by some to be due to the multiplication of living organisms in the blood, and by others to the effect of a non-organized ferment. It terminates fatally without secondary inflammations.

(3.) "*Pyæmia* (for want of a better name). An infective process, probably similar in nature to septic infection, but differing from it in giving rise to local inflammations and suppurations, often complicated by thrombosis and embolism, possibly due to the blood condition. . . .

(9.) "A group of obscure cases, in which it is impossible to form any idea as to their exact nature, often called spontaneous septicæmia or pyæmia."

Of the seven hundred and sixty-eight cases before referred to, four are recorded under the head of Spontaneous Septicæmia and Spontaneous Pyæmia.

Concerning these cases the committee say: "Under these names have been described certain rare and obscure cases, in which symptoms analogous to those of septic infection and pyæmia have arisen without any discoverable local source of infection. Four such cases are briefly summarized in the appendix (Table XI.). None of these occurred during the course of the present inquiry. They are merely appended as illustrations of the disease in question. They are not sufficient in number to justify any conclusions being drawn from them."

Before giving these cases I wish to read the history of a case which occurred in my own practice:—

On Thursday, December 26, 1878, I was called to see Mrs. H., aged thirty-three years, American, married, by occupation a bookkeeper, a lady of unusually fine physique and healthful appearance. Patient gave a history of general good health since childhood.

On the Saturday previous to my visit she felt symptoms of a severe cold, and on Saturday evening "took a sweat," which was repeated on Sunday evening. On Monday and Tuesday she went to her place of business, walking with great difficulty, because of lame-

ness involving the muscles of the hips, thighs, and legs, especially those of the right. Tuesday night had a severe rigor. Wednesday (Christmas day) remained indoors; lameness unimproved. Thursday morning, the time of my first visit, the patient, who was in bed, exclaimed, "Doctor, my right leg is practically paralyzed; I cannot move it." Examination revealed extreme tenderness of the muscles of the right hip, thigh, and leg, but passive motion produced no pain at the joints. There was no history of contusion nor injury, no discoloration of the skin, no swelling, no cedema. There was also tenderness, but in less degree, of the muscles of the left hip. Patient complained of pain and distress in the præcordial region, but physical examination revealed nothing abnormal about the heart. Pulse, 100; temperature, 102.5° F.; respiration, 34; was menstruating. On Saturday, December 28th, there were indications of disturbance in the right lung; no material change in other respects. On Monday, December 30th, the patient was able to move the right leg without difficulty; there was no tenderness on pressure except in the region of the right hip. Physical examination revealed dullness, bronchophony, a few subcrepitant râles, and increased vocal fremitus, over the lower lobe of the right lung. There was no cough, no expectoration, no pain in the right chest. The præcordial distress had disappeared. Since the previous Thursday the pulse had varied from 100 to 110, temperature from 101.5° to 103.5° F., respiration from 32 to 34. On Wednesday and Thursday, January 1 and 2, 1879, the pulse was 120, and the temperature 104° F. Patient unable to lie on either side since she was taken sick, because of the tenderness in region of the hips.

On the mornings of Friday and Saturday, January 3d and 4th, patient expectorated a small quantity of what seemed to be bright-red fresh blood. Pulse and temperature falling.

Menstruation ceased after ten days; was of longer duration than usual, in other respects normal.

On the mornings of Monday and Tuesday, January 6th and 7th, there were repetitions of the bloody expectoration. The pulse on Tuesday morning was 80; temperature normal.

Thursday, January 9th, pulse and temperature were the same as on Tuesday; tongue clean; patient sat up nearly an hour, and took solid food with relish. There was still tenderness in the region of the hips, especially of the right hip, but no fluctuation.

Saturday, January 11th, the pulse was 100, heat 100° F.; there was no relish for nourishment. Two spots, resembling erythema nodosum, had appeared on the middle third of the right thigh, external aspect. There were similar spots on the anterior and external aspects of the left thigh; one also below the knee, antero-internal aspect.

Tuesday, January 14th, the pulse was 110, temperature 101° F. No albumen in urine; no cough; no expectoration since Tuesday morning, January 7th.

Thursday afternoon, January 16th, patient had a severe chill, almost a rigor, followed by profuse perspiration.

Friday, January 17th, there were repeated chills and perspirations. On Friday evening I learned that extreme dysuria had been present for twenty-four hours, the nurse having kept silence at the urgent request of patient. Made investigations as to the possibility of any uterine disturbance sufficient to account

for chills, perspirations, and dysuria, but with negative results.

Saturday morning, January 18th, the condition of patient was but little changed, except that the dysuria had been almost entirely relieved. In the afternoon Dr. Ellis saw the patient in consultation. Dr. Ellis has very kindly furnished me with a copy of his notes of the case, made at the time:—

"Ill-defined dullness over the lower third of the right lung. Some subcrepitant as well as sonorous râles on full breath or coughing, but nothing very distinct. Complains mostly of pain in the hips, and says there is nothing wrong above the latter.

"Looks pretty well.

"Heart normal.

"The dark-red portions of skin on the thighs are hard as from infiltration, and in the left thigh is felt an induration beneath the skin, with no redness of the latter.

"Great hardness on pressure over the hip-joints.

"It seems probable that the soreness is owing to some deep-seated inflammation.

"The character of the pulmonary disease is such as to suggest embolism or pyæmia, but the source of this is not so clear.

"The dark-red or purplish spots are probably attributable to the same cause, and abscesses will be likely to form here.

"The case will probably terminate fatally."

Monday, January 20th, received the following report of examination, made by Dr. Townsend, of sample of urine voided the day before:—

"Specific gravity 1010; reaction feebly acid; pus abundant; one cast only seen; some doubtful fat corpuscles."

There was a gradual increase of unfavorable symptoms during the following week. Pulse varied from 100 to 130; temperature from 100° F. to 103° F.; chills and perspirations continued. The discolorations on the thighs assumed more of the aspect of tumors, becoming elevated above the surrounding tissues. There was fluctuation, the last of the week, in the tumor below the left knee.

On Friday, January 24th, I received a letter from Dr. Ellis, containing report of examination, by Dr. Cutler, of sample of urine. Dr. Ellis wrote as follows:—

"The examination of the urine does not prove much, but is suggestive as far as it goes. Specific gravity 1012; acid; urea deficient; a trace of albumen; pus corpuscles; vaginal and vesical epithelium. There is no more albumen than the pus would account for, but the low specific gravity and the diminution of urea make me suspect that, unless the quantity of urine were quite large, something more will be found later.

"The persistence of the symptoms makes me feel still more strongly that we may be correct in our diagnosis. I have not yet found an exactly parallel case, but as far as the evidence goes it confirms the view expressed."

On Sunday, January 26th, Dr. Hosmer was called in consultation, and found the general condition of patient much the same as when Dr. Ellis saw her. There was no fluctuation in region of right hip. Introduction of exploring needle in tumor below the left knee revealed pus. Dr. Hosmer's opinion as to the obscurity of the case fully coincided with that given by Dr. Ellis.

During the week following patient gradually failed. Pulse ranged from 120 to 140; temperature from 100° F. to 104° F. The last of the week there was pitting upon pressure in the region of the right hip, but no fluctuation.

Sunday, February 2d, Dr. Hosmer saw the patient again. It was decided that there were not sufficient indications of pus about the right hip to warrant the introduction of an exploring needle.

Two days later, Tuesday, February 4th, patient was seen in consultation by Dr. Patch, who concurred fully in the opinions of Drs. Ellis and Hosmer.

During the succeeding week the pulse ranged from 130 to 160; temperature from 100° F. to 105° F. There was slight delirium at times and occasional incoherence on first awaking from sleep. Patient died on Wednesday morning, February 12th, seven weeks from the time of my first visit.

The autopsy was made by Dr. E. G. Cutler, and the following are his notes:—

Autopsy, thirty-one hours after death. Rigor mortis was marked. The body was not emaciated. Miliary sudamina were found thickly scattered over the chest, not extending over the abdomen. The belly was much distended by gas. There was a slight icteric hue of skin, and the conjunctivæ were yellow. In the middle third of the left thigh, anteriorly, there was a tumor in the skin about the size of the fist, which, on being opened, was found to be an abscess involving the skin and burrowing between the muscles of the thigh. There were two or three similar but smaller tumors on the upper third and external side of the left thigh. A small circumscribed abscess was found at the junction of the fourth costal cartilage with the sternum on the left side, involving the cartilage and perichondrium.

The heart was of normal size, its color was somewhat pale; the right side was distended with dark, loosely coagulated blood, and the left side was fully contracted. The tissue was rather more friable than normal, and on section the muscle had a fatty appearance, more marked in the muscoli papillares. A microscopic examination confirmed the gross appearances, the fibres being found to be markedly fatty. All the valves were healthy. The innermost sheath of the intima of the aorta contained numerous small spots of fatty degeneration.

There was an old pleural adhesion on the left side at the lower portion of the upper lobe. On section considerable fluid was found in the alveoli, having an acid odor and a brownish color; the bronchi were discolored posteriorly and stained of the same color as the alveoli, and it was evident that the fluid was part of the contents of the stomach pressed out by the gaseous distention of the intestines. In the right lung there was a recent pleuritic adhesion over the posterior and middle portion of the lower lobe; and on section of the lung at this point there was found to be a small abscess containing about a drachm and a half of pus. The boundaries of the abscess were a little obscured by softening dependent on the presence of fluid and consequent digestion, just as was seen in the other lung. On slitting up the pulmonary artery an embolus was found corresponding to the location of the abscess.

The spleen was of normal size, a trifle pale, and the pulp soft. The trabeculæ and Malpighian follicles were normally distinct.

The stomach and intestines were normal.

The left kidney contained a wedge-shaped abscess in the cortex at its upper extremity. The tubules were universally cloudy and the Malpighian bodies injected. There was an abscess in the right kidney near one of the pyramids considerably larger than the one in the other organ.

The liver was of average size; its color was yellow, and the acini appeared fatty. On microscopic examination there was found to be extreme fatty infiltration and some fatty degeneration of the hepatic cells.

The cervix uteri was found to be shortened and strongly anteflexed by old cicatrices; it was otherwise normal. There had been old pelvic peritonitis, which had bound the ovaries and Fallopian tubes into a confused mass.

The right buttock was found to be a bag of pus; the ilium was denuded over a space half the size of the palm of the hand, and the periosteum gone, though the bone was not roughened. The muscles were shreddy. No source of pus was found; there was neither caries nor necrosis of any of the bones, and there was no evidence of contusion.

Three of the cases reported by the committee of the London Pathological Society are in substance as follows:—

CASE I. Male, age forty-eight. Was taken with shivering on coming out of a hot room. Later on, cough, frequent rigors, night-sweats; bowels regular.

On three different dates was nearly well, but relapsed soon after. Was admitted about two months after first attack, with above symptoms and pain in back of head, neck, and calves; pulse 114; liver dullness slightly increased. There appeared an eruption like impetigo on legs; about twenty hard inflamed cutaneous lumps on each leg, size of peas; some suppurating, red raised patches, size of crown piece, on forearm; blood extravasated in some of suppurating points; constant delirium; glans penis apparently gangrenous. Died ten weeks after invasion.

Autopsy. Bullæ on face, legs, and arms, purple, with areola. Several small abscesses in the muscles of the forearm. Larynx: ulceration of membrane lining the ala of thyroid cartilage; patch made up of numerous minute purulent heads. Lungs intensely congested; contained numerous collections of minute abscesses, with distinct pyæmic characters; two or three larger accumulations of unhealthy pus, size of filbert. Glans penis infiltrated with pus.

CASE II. Female, age twenty-one. Good previous health. Was taken with headache and cough, with slight expectoration, followed by languid pain in chest and general aching; temperature high. Was admitted ten days after attack; a rigor; bowels regular. Next day two loose, dark-colored stools; twelve distinct rose spots; constant delirium; loud systolic murmur. The day following, vesicular eruptions on fingers and toes and forehead, in some places pustular; temperature 104.8° F. Died.

Autopsy. Purple hæmorrhagic spots at ends of fingers and toes; a few vesicles on front of legs, some becoming pustular; herpetic spots on scalp and forehead; slight ecchymosis under scalp, corresponding to the herpetic spots; small collections of pus in the brain under the visceral arachnoid, in the heart beneath endocardium chiefly at upper part of right ventricle, in the mucous membrane of the intestines (nothing like typhoid ulcerations), in the cortex of the kidneys, mostly immediately beneath the capsule; effusion of

blood into left hemisphere of brain and in cerebellum; two or three spots, mottled with yellow, beneath capsule of liver. Blood very fluid thirty-six hours after death.

I omit Case III., as there was no autopsy reported.

CASE IV. Male, age forty-eight. Cough three months. February 28th, severe rigors. Admitted March 3d. Jaundiced; liver dullness increased; temperature 103.8° F.; abdominal pains; purgatives; jaundice diminished; severe cough. No change for several days; jaundice then increased; emaciation. Four days before death sordes, profuse sweating; red flush on hands and wrists.

Autopsy. At the base of right lung was a small circumscribed area of "secondary pneumonia;" congestion of mucous membrane. Liver large; lobules distinctly marked out. Joints; pus in left sterno-clavicular and wrist joints.

In the *London Medical Record* for June 15, 1879, are epitomized the reports of a series of five cases of "spontaneous septicæmia" which have come under the observation of Leube, and which he published in a German medical journal.

The two most interesting of these reports I have copied:—

"CASE III. A lad, aged nineteen, suddenly became unconscious. Slight excoriation on the nose; herpes of the left hand; the urine contained much albumen and numerous cylinders; both epididymides were enlarged, and felt hard and nodulous; the optic nerves and the veins of the retinae were hyperæmic; there were extravasations in both retinae. The temperature rose to 40.1° C. Later on Cheyne-Stokes's respiration set in, and the patient died in three days.

"Necropsy. Ambilateral cheesy epididymitis; a softened thrombus in the left epididymis; miliary metastatic bacteritic foci in both kidneys, and cheesy degeneration of the apex of one of the pyramids; metastatic miliary foci in the myocardium; bacteritic growths on the bicuspid valves; metastatic miliary foci in the mucous membrane of the pharynx and larynx, the large intestine, the conjunctivæ palpebrarum, and the membranes of the brain; diphtheritic inflammation of the inner coat of the ileum; tumor of the spleen."

"CASE V. A servant-girl, aged seventeen, was suddenly taken ill with rigor, subsequent fever, profuse perspiration, and pains in the right shoulder-joint. The latter was tender to pressure. A systolic murmur could be detected over the heart; the temperature was high. A few days later, she became comatose; some of the muscles of the eye were paralyzed; a bloody extravasation was seen, first in the left retina, later on in the right; the dullness of the heart was enlarged; death ensued a week after she had first felt ill.

"Necropsy. The spleen was slightly enlarged; diffuse suppurative meningitis; pleuritis on the left side of the thorax; bacteric endocarditis of the central valve."

Leube states that "spontaneous septicæmia may easily be mistaken for uræmia, meningitis, or miliary tuberculosis, although neither of the latter affections entirely resemble it in every respect. Characteristic symptoms are the rigors and high temperature, which set in suddenly without any prodromi, as well as the profound alteration of the nervous centres. The eruptions on the skin are also very important diagnostically, especially as they occur constantly, which is not the case with the hæmorrhages in the retina."

In the *London Lancet* for March 20, 1880, is a clin-

ical lecture on Ulcerative Endocarditis with Embolism of Brain, by Henry Thompson, M. D., in which he says: "Its consequences are embolism or blood infection, or both together. . . . I am bound, however, to warn you that by many authorities ulcerative and infective endocarditis are regarded as commensurate and synonymous terms. Nor is this all. Pathologists have brought to light the so-called material of infection, the presumed blood poison itself, in the several shapes of micrococci, vibrios, bacteria, leptothrix, filaments and the like, — a motley assemblage of molecular organisms, which may be briefly designated microzymes. . . . Unfortunately no one can tell where these strange beings are born, whether *within* the heart or *behind* the heart in the course of the circulation, whether they are indigenous or exotic, central or peripheral, in origin. Cases are on record which one would unhesitatingly refer to an extraneous source. On the other hand, there are undoubted examples where no distant point of departure was *discovered*, but in this connection it must be borne in mind that the same thing is true of unequivocal pyæmia. Over and over again, you know, in pyæmia we find no aboriginal focus of infection, whether anything of the kind exist or not.

"In all my own more recent cases, three in number, post-mortem examination revealed nothing to warrant the assumption of an extraneous source."

I have given the records of certain cases of pyæmia and septicæmia which are classed by some authorities as "spontaneous" in their origin.

In my own case the possible causes, such as bad air, impure water, defective drainage, tainted food, previous poor health, were all thoroughly investigated, with negative results.

These histories seem to justify the belief that cases of pyæmia and septicæmia occur in which the cause cannot be traced. The word "spontaneous" indicates that the origin cannot be explained, but does not necessarily commit one to the belief that there was a "spontaneous generation."

Further than this I have no theory to offer in regard to these cases; they are still too few in number to warrant any conclusions being drawn from them.

My desire in the presentation of this paper is that it may elicit discussion now, and the publication, hereafter, of other cases similar in their history.

HUMAN GROWTH.

BY CHARLES SEDGWICK MINOT, M. D.

As Dr. Bowditch's researches on the growth of the school-children of Boston have excited a very widespread and general interest in the matter, it is desirable to call attention to the independent investigations of Professor Pagliani, of Turin, which have confirmed and supplemented Dr. Bowditch's results. Pagliani's last paper¹ gives a general *résumé* of the whole subject, based upon his own statistics and the observations of others. It is the chief object of the present article to give an abstract of this important memoir.

Formerly the principal authority on human growth was Quetelet,² who, having adopted a very arbitrary

method of research, arrived at results which are erroneous in important respects, as both Bowditch and Pagliani have pointed out. It is strange to find that even in the third edition of Foster's text-book of physiology, the best and most recent manual of this science, Quetelet's errors are still repeated. It is therefore desirable to report the new researches, since the general authorities are very incorrect.

Quetelet's error arose from his measuring twenty picked individuals for each age, ten of each sex, selecting those he supposed to be fully and symmetrically developed. In order to get at the real course of growth it is necessary to take the average of a very large number of measurements, excepting only individuals with positive deformity or disease, because the variations are both extensive and numerous, and the growth of an individual rarely, if ever, conforms exactly to the average.

The best measure of growth is unquestionably the weight, because it represents the total growth independently of its being principally in height or diameter. The stature shows some peculiarities, which the weight alone cannot bring out, namely, in the proportionate rate of increase of stature and bulk, which are subject to definite and different variations.

The time of growth may be divided into four tolerably distinct periods, as follows:—

(1.) *Formative period*, comprising the first two months of the foetal life, during which the tissues are differentiated, and the omphalo-mesaraic circulation is maintained.

(2.) *Period of embryonic completion*, comprising the rest of the foetal life, with placental circulation.

(3.) *Period of development*, from birth to puberty.

(4.) *Reproductive period*, from puberty onwards.

There is a sufficient distinction between the first and second as well as the second and third periods, but that between the third and fourth depends upon the determination of the age of puberty. No precise determination in the case of boys has yet been made, there being no readily recognizable sign. It is, however, to be hoped that valuable results may be obtained, as Bowditch has suggested, by accurately recording the time when the voice changes, and also when hairs are developed on the pubic region, both changes approximately coincident with puberty. In the case of girls, the first menstruation and also the enlargement of the mammae, which usually somewhat precedes the first monthly flow, afford an obvious and sufficient indication of maturity. Numerous observations upon the first menstruation have been made. In Boston, according to Dr. Chadwick, the average age is fourteen years and five months. The exact epoch varies with race, climate, and circumstances of life. According to Joulin, in warm climates there is a larger number of first menstruations at twelve years than at any other age; in temperate climates at fifteen years; in cold climates at sixteen. But these data are very uncertain, as is shown by the fact that in Denmark Hannover found from 2129 cases the average age to be 16.91 years, while Raun, from 3840 cases, found it to be 15.84.

The statistics must therefore be gathered before they will yield sufficiently accurate means. Menstruation begins in the majority of girls between the thirteenth and eighteenth year, both inclusive, a period of nearly six years, over three or four of which the cases are distributed about equally, so that there is not one year

¹ Luigi Pagliani, *Lo Sviluppo umano per Eta, Sesso, Condizione sociale ed etnica, studiato nel Peso, Statura, Circonferenza toracica, Capacità vitale e Sforzo muscolare*. Milan, 1879. 8vo, pp. 79, Tav. I.-IV.

² Quetelet, *Physique sociale*.

during which menstruation usually begins. This is instanced by the following table, obtained at Professor Tibone's clinic in Turin:—

Age.	Cases of First Menstruation.
10	2
11	13
12	89
13	222
14	359
15	316
16	306
17	198
18	177
19	54
20	48
21	13
22	12

The causes of such variation are not surely recognized. In Germany, according to Meyer (six thousand observations), menstruation is earlier, 15.51 years, in the daughters of well-to-do parents; later, 16.50 years, among the poor; while it has been found that in cities the first menstruation occurs two to three months earlier than in the country. A much more important indication is afforded by the color of the hair, according to Pagliani: the lighter the color, the earlier the menstruation.

This conclusion rests only upon seventy-one observations by Dr. Bianco, of Turin. Since it is so important to decide this point by further research, Pagliani's table is here reproduced, to make comparisons easier:—

Year of the first Menstruation.	COLOR OF HAIR.		
	Blonde. No. of Cases.	Brown. ¹ No. of Cases.	Black. No. of Cases.
12	8	2	2
13	8	5	3
14	5	10	4
15	3	6	9
16	3	1	3
17-18	1	2	2

It is to be hoped that those physicians who have opportunity will make notes upon this point.

The season of the year also appears to have a marked influence. The first menstruation, according to one hundred and thirty-seven observations by Bianco, occurs in the spring in thirty-four per cent. of the cases, but the proportion is much larger (forty-five per cent.) in the country than in the city (twenty-three per cent.).

If these conclusions are all correct, then if a girl is brought up in the country, in easy circumstances, has blonde hair, and was born in the spring, she combines the circumstances favorable to early menstruation, and *vice versa*. The bearing of these facts on the course of growth will be considered directly.

Concerning the growth of the fetus the observations are few, and often unsatisfactory. Moleschott has

Age in Weeks.	Length in mm.	Weekly Increase.
2	2.2	
3	4.5	2.3
4	8.0	3.5
5	12.0	4.0
6	16.0	4.0
7	20.0	4.0
8	30.0	10.0

¹ Called "*castagni*" in the original.

calculated the following averages for the length, but his figures progress with great irregularity, as is shown in the table.

Even more irregular and unsatisfactory is Pagliani's table of fetal growth in length and weight from the second to tenth month. What little value these statistics might otherwise have is lost by the omission of the references to the original authorities, and also of the number of data from which each average is taken. According to the tables, the rate of growth is twenty times more rapid during the third month than during any subsequent one, and somewhat more rapid than during any previous period excepting the first and second week. Such a strange irregularity we necessarily suspect to be accidental, and until we have a large number of accurate data it cannot be considered fairly established.

Concerning the weight at birth there are of course very numerous statistics, referring especially to the weight. These Pagliani has compiled, but as he again omits the number of observations it is impossible to calculate the average. At the Hôpital de la Maternité in Paris the mean of twenty thousand observations, not divided according to sex, was 3.06 kilogrammes. According to various observers the male children are born one tenth to one twelfth heavier than the female. During the first two days the child *loses* about one sixteenth of its initial weight if nursed by the mother, but if fed from a bottle the loss continues five days or more, and amounts to ten per cent.

According to Banchaud, the child increases from 3.250 kilogrammes at birth to 8.950 at the end of thirteen months, but during that whole period the rate of growth rapidly diminishes. Thus, during the second month the increase is 750 grammes, but during the thirteenth 200 grammes only.

For the period which now intervenes before the fourth year of age there are recorded only the few unsatisfactory data of Quetelet and Zeising.² Pagliani gives the averages of his observations for three or four years, but as he omits to state how many measurements have served to determine those averages, though from the context it is evident the measurements were few, we must place less confidence in his figures than in those of Quetelet, whom Pagliani severely criticises for his imperfect method. For the period from five years to twenty the very extensive data collected by Dr. H. P. Bowditch in Boston are by far the most valuable we have. Dr. Bowditch was the first to establish the correct curve of growth, and to point out Quetelet's error. His results were confirmed by the synchronous and independent investigation of Pagliani, they both finding that the period of most rapid growth immediately precedes puberty. They differed, however, in that Bowditch found girls to grow fastest during the eleventh and twelfth years, Pagliani during the twelfth and thirteenth. This discrepancy Pagliani now explains by a difference in the age of puberty, which he assumes to arrive earlier in Boston than in Turin. He found that when the first menstruation takes place the rate of growth suddenly diminishes, the most rapid growth being prepubertal. He bases this conclusion upon observations by Dr. Bianco on thirty-nine girls, extending over five years, a small number of data, but all confirmatory, as is shown by the following table:—

² Zeising neue Lehre von den Verhältnissen der menschlichen Gestalt, etc. Leipzig, 1854.

No. of Obs.	Year of First Menstruation.	Annual Increment of Stature in Millimetres at the Age of					
		10	11	12	13	14	15
4	12	66	96	81	80	29	14
12	13		68	60	86		
11	14		48	71	66	86	84
12	15			53	58	142	29
							7

It must be noted, however, that though the growth in stature falls off very rapidly in the menstrual year the growth in weight diminishes much less, a fact which is undoubtedly the result of the rounding out of the figure at that period.

Dr. Pagliani also studied the development of the thorax by measuring the circumference of the thorax in the male and the biacromial diameter in the female. He further studied the development of the muscular force (but strangely omits to state what means he employed to measure it), and finally the capacity of the lungs. I reproduce his general table, which gives a summary of his various results:—

GROWTH OF BOYS. ANNUAL INCREMENTS.

Age (years).	Weight (kilos.).	Stature (cm.).	Circumf. Thorax.	Capacity Thorax.	Muscular Force.
7-8	1.8	5.7		166	6
8-9	1.7	5.6		235	10
9-10	2.4	2.5	0.91	260	11
10-11	1.8	3.0	0.47	205	10
11-12	2.7	4.3	0.97	230	11
12-13	3.7	5.9	3.72	145	9
13-14	3.6	5.8	1.50	115	10
14-15	5.2	6.5	3.90	330	14
15-16	5.4	6.1	3.35	210	8
16-17	5.5	2.0	2.85	430	6
17-18	1.3	0.8	0.53	60	4
18-19	1.2	0.8	0.85	50	6

GROWTH OF GIRLS. ANNUAL INCREMENTS.

Age (Years).	Weight (kilos.).	Stature (cm.).	Biacromial Diameter (cm.).	Capacity Thorax (cc.).	Muscular Force (kilos.).
7-8	1.3	6.4	1.8	250	3
8-9	2.9	5.2	0.8	195	7
9-10	2.8	6.5	2.5	200	7
10-11	2.2	4.2	0.7	140	4
11-12	2.6	5.2	1.0	115	8
12-13	5.0	5.9	0.9	180	8
13-14	4.0	7.0	3.7	200	8
14-15	4.3	3.0	0.0	200	5
15-16	1.9	1.4		40	2
16-17	1.8	1.0		80	1
17-18	1.1	0.0		25	

An inspection of these tables shows how greatly and in what respects these various measures of growth differ among themselves and in the two sexes, matters into which Pagliani enters at some length.

The relation of growth to the circumstances of life is a subject of very recent scientific study, for the vague opinions formerly upheld, and even now sometimes repeated, are valueless. It is now established statistically that poverty, accompanied as it is by hard and incessant labor and insufficient nourishment, greatly impedes growth, but it exerts only a slight if any influence on the size of the new-born child; during childhood the difference between the child of well-to-do and of poor parents constantly increases, though according to Pagliani the poor girls lose at first more than the poor boys; in both sexes, however, the difference ultimately becomes nearly the same, the poor children weighing about eighty per cent. of the weight of well-to-do children of the same age and sex. Pagliani

points out that in his tables the difference is greatest at the time of puberty, but his figures are based on too few observations for it to be safe to draw that conclusion. The same untoward effects of poverty are shown by the growth in height, in the capacity of the lungs, and in muscular force.

The influence of the circumstances of life is well shown in a comparison of girls of the upper Italian classes educated at an institute in the country near Turin with charity girls in a most unfortunately constructed building in the midst of the city. At fifteen years the country-bred girls averaged 45.6 kilogrammes in weight, the charity girls 37.1, or eighty one per cent. of the former. The difference in stature was, however, less.

Sufficient and regular exercise does a great deal to assist growth. A certain number of boys in the schools of Turin are annually selected on account of their gymnastic aptitude, and are given three extra lessons in gymnastics per week. Ninety-four of these boys were measured before and after three months of this drill, and it was found that the average increase in the capacity of the lungs was two hundred and twenty-eight cc., the average annual increase for other boys of the same age being two hundred and twenty cc. The lungs of the boys who exercised enlarged *more in three months* than those of other boys in a whole year. The same phenomena are shown by the increase in muscular power.

Wretling found in Göteborg that going to school impeded growth, for he discovered that the children grew much more rapidly during vacation than during school-time. There were three months' vacation, nine months' schooling, so that if the growth was constant then the children would grow one third as much during vacation as during term-time; but this was nowise the case. Indeed, at fifteen the increase was actually more during the vacation than during all the rest of the year. The following table shows these facts:—

GROWTH OF BOYS. WRETLING.

Age.	No. of Observations.	INCREMENT; WEIGHT IN KILOS.	
		Three Months' Vacation.	Nine Months' School.
7	121	1.19	3.77
8	239	1.60	3.36
9	368	2.01	4.07
10	462	2.52	4.50
11	499	2.78	5.31
12	488	3.57	7.29
13	506	4.38	5.95
14	487	4.67	7.18
15	299	4.61	4.08
16	159	3.25	3.58
17	34	3.21	1.00
	3847		

Even when the influences unfavorable to development have acted several years, if the child is placed in better circumstances its growth takes a start. This is shown by a charitable farming school, the pupils of which, taken from the lower classes of Turin, were examined by Pagliani. At the school they were well fed, and worked out-of-doors a good deal. When the boys enter the school their *physique* begins to improve. During the first year the increase of weight is most prominent, but the greatest rate of growth in stature does not take place until the third year, while the most rapid increase in the circumference of the thorax, the capacity of the lungs, and muscular force falls in the second year after entering the school.

Finally, the course of growth varies according to

race, but unfortunately the want of statistics prevents the drawing of any definite conclusions concerning the factor of race.

It is much to be regretted that Dr. Pagliani's interesting and valuable memoir is seriously marred by his unaccountable and inexcusable neglect in not giving the number of observations from which many of his averages are compiled, so that his figures cannot be added to, or even properly compared with, those of other observers. He also omits to give references to many of his authorities, rendering it impossible to verify his citations. Who, for instance, would look for "*Chadwick (Boston)*" as an authority for the period of menstruation under Bowditch, except he were already familiar with Dr. Bowditch's article on the growth of children?

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF CHILDREN.

BY D. H. HAYDEN, M. D.

ATTACK OF COLD (DU COUP DE FROID).¹

THE subject was suggested by the rigorous temperature to which the population of Paris was exposed the previous winter, and the resulting noxious influences upon young infants. When the cause of a disease is given as *having taken cold* (*un refroidissement*) this etiology is not always accepted without discussion. "How," exclaims the mother, "can my child have taken cold! Before taking it out I had it warmly wrapped up; and when it was in the carriage all the windows were closed." At other times they will declare, what is perfectly true, that the child has not been out of the house for several days, and that it has been in one room, thoroughly warmed, all the time. One should never be affected by arguments of this sort.

A child under six or seven years of age cannot endure a long walk without injury when the temperature is low. It becomes quickly tired, and is then very sensitive to the action of cold, which strikes it immediately on stopping or when it passes abruptly from a sheltered spot to a street swept by a cold wind.

In the interior of the apartment the causes of catching cold are still more difficult to avoid; and the accidents resulting therefrom are more frequent.

In a young child the skin is but slightly sensitive and incompletely educated to outside influences, and consequently but little vigilant. It gives warning very tardily and in an imperfect manner of dangers threatening. For in rooms the most shut up there are produced, inevitably, draughts, and these are the stronger the larger the fire in the grate; so that if a room where there is a fire is heated by itself, and is explored carefully, it will be found to be traversed by a certain number of waves of cold air, which converge from various orifices towards the chimney. The direction of these currents of air is very variable. They are formed more often in the lower regions, having their origin in the spaces between the doors and the floor. Little children, which pass of their own accord a part of the day playing on the floor, are very much exposed to these draughts.

The time of greatest danger for a child is on entering the house, after having been playing and running out-of-

doors. When he is warm and often perspiring, his outside garments are removed, and he remains in a room insufficiently heated, and quiet from the fatigue of his play. His temperature becomes necessarily lowered in a rapid manner, and a liability to catch cold is established. The same dangers exist for infants at the breast. On going out they are clothed with robes, gaiters, and veils, and finally over these is a cloak, which of itself would suffice to protect them from the severest cold. Thus wrapped up they rest for two or three hours in their nurses' arms, who supply in addition heat from their own body. Their faces are nearly always red and covered with moisture. On returning to the house they are placed asleep on their cradle having previously had their outside garments removed. There ensues a notable and rapid fall of temperature, the effects of which are often manifested very quickly. These sometimes show themselves shortly after such exposure and with great intensity; sometimes, on the contrary, they appear more tardily and with much less severity. To illustrate the first class: An infant between two and six years old, which has been out during the day, and which has afterwards taken its meals and had a sleep, without the slightest indication of having taken any cold while out, wakes suddenly towards eleven at night, anxious and frightened. It has a croupy cough; the countenance is animated, the neck swollen, the skin warm and covered with perspiration, the pulse frequent. In one word, it has an assemblage of symptoms which characterize stridulous laryngitis. That it has during the day taken cold is indubitable. Another infant, younger, at the breast, in the evening of a day when it has been out, after having slept peaceably wakes, in a state of uneasiness, as shown in its face. It is pale; its eyes look excavated; one would think that it was going to fall into a condition of syncope; its mouth is opened, as if nauseated; every position is uncomfortable to it, and it moans continually. It finally vomits abundantly, appears relieved, goes off to sleep, and often all is terminated by a few diarrhetic stools. But at other times the face becomes red, the skin very hot; the pulse beats with frequency, and it begins to cough; and at the end of a time of variable length all the signs of a bronchopneumonia are demonstrable. In these cases the intervention of a *coup de froid* cannot be questioned. In cases where the results of a cold appear more tardily and in a manner less blustering, it is not until the next day that the first symptoms make their appearance. These vary. The fever is the most constant symptom; at other times there is a loss of appetite, or a cough, which attracts the attention. Very quickly the situation emphasizes itself, and the localization of the trouble becomes apparent. With some it is a "herpetic or pultaceous angina." With others a nasal discharge, redness of the eyes, sneezing, and a frequent cough leave no doubt as to the nature of the trouble. Often the Eustachian tube and middle ear become inflamed, and there can follow a painful abscess in the latter region. Finally, in certain cases, it is the intestines that are affected, as it is easy to see by the colic and diarrhoea.

These are far from being all the pathological consequences of a *coup de froid*, but they are the most frequent. They can come singly or more or less associated together; and as they hold a prominent position in the pathology of infancy they should be always borne in mind, and an exploration made to put one in the way of their discovery. For example, after care-

¹ Lecture delivered by Professor M. Parrot at the Clinique of the Hospice des Enfants assistés. Progrès médical, March 13, 1880.

fully inquiring about the doings of the little patient for the preceding forty-eight hours, auscultation should be always practiced; and it cannot be too much insisted on that an examination of the throat must be invariably made. How often is the solution found there!

The most efficacious means of preventing colds in infants: If the children occupy a closed room, they must not be allowed to sit round near the doors or windows or fire-place. The spot for them in their plays or reading should be as far as possible from the fire-place, provided that it is not near any opening. It is greatly preferable, when practicable, that the room having the fire should be in open communication with the neighboring room, to which the children should have free access. It is true they are thus exposed to changes of temperature, but in a manner so imperceptible that no harm could result therefrom; and they will also be thus accustomed to endure more considerable and sudden transitions to which they must be exposed in other circumstances.

With regard to going out the same rules will not answer for all subjects. An important consideration is the age.

No matter what the temperature is, if neither rain, snow, mud, or wind offers an obstacle to a walk, a child can and should be taken out every day. But the duration of the promenade will be inversely to its age and to the intensity of the cold. The lower the thermometer and the younger the child the shorter must be the duration of its exposure out-of-doors. When the thermometer is three or four degrees below freezing, a child under five years of age should not be kept out more than twenty minutes to half an hour. A child seven or eight years old can be kept out nearly an hour, but he should be required to be constantly walking. Infants at the breast, three months old and over, can be carried out even when the cold is severe, but great care must be taken to cover their face and to shorten the promenade.

This daily going out cannot be too much insisted upon. A slight cold should not be considered an obstacle. It is a very unfavorable thing for children to remain in-doors several days in succession; and it is often in such cases, after an untimely confinement in-doors, that the effects of a cold are experienced on the first going out.

Nothing can be more imprudent than to take off the clothes of a child just returned from a walk, even when the temperature of the apartment is higher than that outside. It is rare that the child, somewhat perspiring and slightly fatigued by the walk, does not rest relatively immovable. This want of action, after a brisk walk, would not always be compensated for by the warmth of a fire. Recommend, therefore, that the clothes be removed little by little, and the more slowly the less the difference between the outside air and that of the chamber, and the greater the repose in which the child is resting.

The moment of return should be taken advantage of also for giving the child some lunch; and even when very young it is good hygiene afterwards to give a little wine. In the spring and summer, if it is much warmer in the open air than in the interior of the apartment, the children should be covered immediately on their return from their walk.

What is to be done when (which is a very rare experience) one is promptly notified that a child has just been exposed to a "*coup de froid*"? He should be

placed in a room the temperature of which does not exceed 16° or 17° C. (62° F.). The legs should be wrapped in warm flannels or sinapisms applied. There should be given a warm aromatic drink, after adding to it a little rum or cognac; and there is nothing to fear, when an infant is only five or six months old, in giving in the space of one or two hours one or two teaspoonfuls of cognac in coffee.

To older subjects, especially when over two years, a teaspoonful "*à entremets*" of a *mistura gummosa* containing two to three grammes (thirty to forty-five grains) of acetate of ammonia should be administered from hour to hour. If decided nausea or oppression exist, one must not hesitate to give an emetic. It will always provoke a salutary diaphoresis and a calm sleep, from which the child will not wake until its customary hour, and will be already out of danger.

CONVULSIONS IN CHILDREN.¹

Dr. A. A. Smith read a practical paper on this subject at a meeting of the New York Academy of Medicine, held April 15, 1880. He thought the statement that convulsions in children, independent of organic disease of the brain, were rarely serious was very liable to mislead the young practitioner. He believed that any case of convulsions might be dangerous, and therefore the physician should always study every case carefully. The age at which convulsions were most liable was between six and twenty-eight months, the period of dentition; not simply because dentition occurred, but because the nervous system of the child was then rapidly developing and was in a very impressible state. The tendency usually manifested itself very differently in different members of the same family. The different factors in the etiology of convulsions in children were taken up in turn,—hereditary tendency, rickets, overfeeding as well as improper feeding, malarial poisoning, congenital syphilis. Occurring in the course of an acute disease, especially towards the close, a convulsion was a grave symptom; also in the course of whooping-cough, if unassociated with dentition or some disturbance in the alimentary canal. The possibility of this same nervous excitability, which showed itself during infancy in a tendency to convulsions, later developing into epilepsy, was then discussed. The treatment was considered under the head of (1) management of the attack, (2) prophylaxis, and (3) subsequent treatment.

The attack should be arrested by chloroform, whatever the cause, which should be removed if possible as soon as found. If due to pain produced by other causes than such as the pricking of a pin, or tight abdominal bandage which could be easily removed, and an overloaded stomach which could be easily emptied, opium was the most valuable remedy; and he would employ it if the child was more than four months old. The pain from teething should be controlled first by opium or a similar agent, and secondly by the gum-lance. The effort to lance the gum before the pain was subdued would probably cause another convulsion. When the convulsions were caused by pain produced by worms or other foreign bodies in the intestinal canal, or errors in feeding, this should be first controlled by opium, and then a cathartic given. Convulsions produced by worms were not always attended with pain. The cathartic and opiate might be combined with advantage. If there was reason to believe the

¹ New York Medical Record, May 8, 1880.

source of irritation was in the rectum or near it, and an enema was indicated, an opiate should be given first; and when its influence was secured sufficiently to control the convulsion then the injection might be given. When due to malarial poison, convulsions yielded more promptly to opium than to any other agent, and subsequently quinine was to be relied on to prevent its recurrence. The tolerance of opium in some of these cases was very great, as well as in all others in which its use was indicated. Dr. Smith believed in lancing the gums when swollen and hot. Further, if it was time for the tooth to appear, he believed the gum should be scarified; for the irritation was due not infrequently to deep-seated pressure, such as could not manifest itself upon the surface. Whatever theory might teach, it seemed to him from clinical observation to be conclusive that lancing the gums was followed frequently with marked relief.

In ordering opium the mother might with safety be told to give the baby over four months old paregoric, with explicit directions concerning size of dose, to be repeated every half hour until the convulsions are controlled or a physician should arrive. If under four months old, Dr. Smith prescribed a teaspoonful of a mixture containing in each dose one grain of bromide, chloral, and bicarbonate of soda for the youngest infants. It was conveniently prescribed in warm sweetened water. Double the quantity might be given every hour or two to children from six weeks to four months of age, according to the frequency and violence of the convulsions. Dr. Smith rejected the hot bath in the treatment of convulsions, for almost invariably the child had one or more convulsions while in the bath,—the very agitation incident to giving the bath adding to the excitement of an already disturbed nervous system. The author insisted, too, that the child should not be restrained while in the convulsion; that it should be placed upon a bed that did not squeak; that the room should be kept perfectly quiet, have plenty of fresh air, be partially darkened, contain only one person at a time; and that opening and shutting of doors should be avoided. Over-active treatment is uncalled for and dangerous.

Dr. Smith then spoke of the sedative effect of the bromides, and of the value of maintaining it in cases in which the prolonged use of opium was undesirable. He believed that the intense itching which especially followed scarlet fever and measles might be the cause of convulsions in young children, and in these cases the bromides acted most favorably. Occasionally they aggravated the symptoms. Under such circumstances chloral might be used. To control convulsions dependent on high temperature he recommended veratrum viride. The tendency to produce vomiting could be obviated by combining it with opium. Two drops of the tincture might be given every hour to a child from six to eighteen months old. If it occasioned vomiting no harm was done, for the pulse and temperature then usually fell, and the convulsions ceased. If the remedy failed the cold bath was indicated. Coma was quite frequent in this class of cases, and the child was then in imminent danger. The temperature must be reduced, and the cold bath was the most efficient means that could be employed. The sedative action of calomel, especially in convulsions occurring at the onset of an acute pulmonary affection, was then mentioned with favor.

Under *prophylaxis* Dr. Smith referred to the proper

care of the mother during pregnancy, especially with reference to proper exercise, food, amount of sleep, condition of bowels, and all that pertains to diminishing the tendency to nervous disturbances in the child. Prophylaxis in the child was suggested by the study of the *ætiology* of the convulsions.

The object to be accomplished under the third head, or treatment subsequent to the attack, was to remove causes, and keep the child in the best possible condition.

Dr. J. Lewis Smith, in an experience of six years at the Bellevue Hospital out-door poor department, had been unable to convince himself that there was any connection between the convulsions of young children and epilepsy in later life. Epilepsy was liable to develop between five and seven years, but he regarded the two as independent conditions. With reference to treatment, Dr. J. Lewis Smith said that he had not carried a gum-lance for five or six years. He had relied upon the bromides of potassium preferably in large doses frequently repeated, two to six grains for a child over two months and under one year of age, repeated every ten, fifteen, or twenty minutes, according to the severity of the case, to control the irritation produced by the irruption of the teeth. In convulsions of children he gave hydrate of chloral, and always by rectal injection, and had been astonished to see how quickly the convulsive movements would cease in a child that had been so treated, the first thing noticeable being relaxation of the face, then of the arms and legs, and usually in a few minutes the convulsion had entirely ceased. He rarely found it necessary to remain with the patient more than half an hour, whereas, formerly, he had not infrequently been obliged to remain several hours before the convulsions were controlled. With reference to hot bath, he could not agree with the author of the paper in condemning its use. He believed it to be a beneficial agent, and certainly, when a child was threatened with a convulsion, had twitchings, etc., he would put it into a hot bath, as he had often seen exceedingly good results follow. Twenty-five years ago musk and assafoetida were used a great deal, but now that the bromides and chloral were so commonly employed, convulsions in infants and young children were regarded as much less formidable than in those days. With regard to *anæsthetics*, he now never gave them in the class of cases under consideration.

Dr. S. T. Hubbard disapproved of the use of opium in children, but otherwise was in full sympathy with the reader's views, as were also Dr. J. L. Campbell, Dr. M. Bluementhal, and Dr. Richards, who followed in the discussion, particularly with reference to the non-employment of the hot bath and the use of the gum-lancet.

FLOATING KIDNEYS IN CHILDREN.¹

In the Hospitals-Tidende, November 26, 1879, Professor Hirschsprung, of Copenhagen, discusses the diagnosis and *ætiology* of floating kidneys in children, and reports two cases occurring in his own experience. The one was in a thin, *anæmic* boy of seven years, who had complained for some time of pain in the right hypochondrium. All the bodily functions seemed to be properly performed, and the pain was not dependent on any condition of the intestines. A careful examination showed, on the right side, between the

¹ New York Medical Journal, March, 1880.

twelfth rib and the crest of the ileum, a tumor somewhat concealed beneath the ribs anteriorly. The boy was chloroformed, and then the tumor appeared below the ribs, and could be moved up and down. The left kidney was in its proper place and immovable. The second case was in a boy eight years. For a number of years he had been obliged to rise several times in the night to micturate. He had always been thin and puny, and of late had had frequent attacks of vomiting. The abdomen was somewhat retracted, soft, and rather tender in the epigastrium. Under the lower border of the eighth rib was a something which resisted pressure. Pressure in the lumbar region under the last rib pushed this tumor forward, upward, and downward. When the child was chloroformed the tumor was seen to consist of two parts, and was recognized as the right kidney, much enlarged and freely movable. The left kidney was in its proper place and fixed. Hirschsprung, in commenting on these cases, thinks that a demonstrable swelling beneath the border of the rib, especially on the right side, of the consistence and shape of the kidney, which can easily be pushed upward toward the normal position of the kidney, and is freely movable forward and backward between the hands, cannot be mistaken for anything else. Both of his cases, as well as the three cases of Steiner, occurred on the right side. Three of the five cases were in boys. In none of the five was there any demonstrable cause. Hirschsprung refers to the paroxysmal pain, which comes on without any exciting cause, lasts a variable time, and then slowly subsides. His second case was complicated with ileus.

Reports of Societies.

NINETIETH ANNUAL MEETING OF THE NEW HAMPSHIRE MEDICAL SOCIETY.

The meeting was held in the Phenix Hall, at Concord, at eleven o'clock, A. M., on Tuesday, June 15, 1880, and was called to order by the president, Dr. T. J. W. Pray, of Dover. Prayer was offered by the Rev. D. C. Roberts, of St. Paul's Church, of Concord, after which the usual committees for the session were appointed by the chair, and delegates, Drs. Ira A. Russell and George W. Gay, from Massachusetts, and Dr. George Davenport, from Vermont, were introduced, welcomed to seats, and invited to take part in the proceedings of the association.

There were one hundred and twenty members present, which is a large number for a small and sparsely settled State, like New Hampshire, and it was evident their interest in professional work was equal to that of any association, for many of them were obliged to leave home either the day previous or upon night trains, in order to avail themselves of a brief period of professional intercourse and interchange of thought.

The council meeting was held the evening previous, and their report was read by the secretary, Dr. M. W. Russell, of Concord, and was accepted; after which sixteen new members were elected and took seats with the society.

At twelve o'clock, M., the president, Dr. Pray, read the annual address, taking for his subject Diphtheria; discussing the etiology and the pathological conditions usually found, and making a strong appeal to physicians to always examine carefully and persistently into

the sanitary conditions of the house and surroundings in cases of this disease, and gave some excellent hints as to the indications of a tonic plan of treatment.

He closed with a brief summary of his own observations, saying he was convinced that croup and diphtheria were of the same origin, and essentially the same in development.

The address was accepted with a vote of thanks, and Dr. W. T. Smith, of Hanover, read an able paper upon Suspended Animation, and Dr. L. B. How, of Manchester, a report on Surgery, giving a detailed account of several cases that had come under his own observation.

At two o'clock, P. M., the society adjourned to the Phenix Hotel, where, with invited guests, they partook of the annual dinner; after which the post-prandial exercises were under the direction of Dr. F. A. Stillings, of Concord, who presided as anniversary chairman, and excellent responses were made to appropriate sentiments by the president, the chaplain, Drs. Russell and Gay, of the Massachusetts Medical Society, Dr. Hill, of Dover, Dr. Fowler, of Bristol, and others.

At 4.30 P. M., the society again assembled in the hall, and the reading of papers was resumed. The secretary read an essay on the Province of Medicine, by M. C. Dix, of Hinsdale, who was unable to be present, and Dr. F. A. Stillings, of Concord, gave an able and interesting paper on Melancholia and its Connection with Ancient and Modern Suicides. These papers were referred without discussion to the committee on publication.

The committee to report on the time and place of holding the semi-annual meeting, through Dr. A. H. Crosby, of Concord, reported that the inducements presented by the managers of the Pemigewasset House, at Plymouth, had been accepted. The meeting was to be held in September; and on the second day, by reason of the liberal offer made by the managers and the railroad, there would be an excursion for the profession and their families upon Lake Winnepesaukee. The report was accepted, and the committee of arrangements were ordered to invite the New Hampshire Pharmaceutical Society, the district medical societies of the State, and such of the profession in other States as could easily arrive at Plymouth in one day, to be present with their wives, and enjoy with the State Association a social meeting, with a day of rest and recreation from the cares of professional life. Report accepted, and Dr. Silas W. Davis, of Plymouth, was appointed chairman of the committee of arrangements. The society then adjourned until eight P. M.

EVENING SESSION.

This session was largely devoted to the report of the committee on necrology, Dr. Hill, of Dover. Five deaths were reported as having occurred since the last annual meeting, namely, Dr. N. Folles, of Claremont, Dr. D. E. Wells, of Hill, Drs. A. R. Dearborn and B. E. Harriman, of Concord, and Dr. A. C. Whipple, of Ashland. Appropriate obituary notices were read of each of these deceased members, in the same order, by Dr. J. L. Swett, of Newport, Dr. H. B. Fowler, of Bristol, Drs. Cook, Crosby, and Conn, of Concord, which were accepted and referred.

The remainder of the evening session was devoted to the discussion of papers, and several interesting cases were reported.

Dr. M. W. Russell reported a case of rheumatic

pericarditis in which the temperature was persistently high, 102° F. to 104° F., and the respiration was so much increased as to make it very difficult to count. The case proving fatal the post mortem showed that the plastic material effused upon the surface of the pericardium had become organized into growths resembling the ferns in vegetable organizations, and the lungs seemed to have suffered secondarily from the pressure made by the overworked central organ.

Dr. Crosby, of Concord, reported a case of inguinal hernia that revealed in the operation two distinct sacs. These cases were discussed and others reported until a late hour, when the society adjourned until eight o'clock the next morning.

MORNING SESSION, WEDNESDAY, JUNE 16TH.

Dr. Pray in the chair. The delegates to Dartmouth Medical College and to other state societies read reports, and the secretaries of the several district societies gave an abstract of the work of their respective associations, and the auditors reported the treasurer's accounts to be correct, all of which was accepted and referred.

By special order, at nine o'clock the following officers were elected; also a council of twenty members and ten censors, as well as committees to report at the next annual meeting:—

President, Dr. G. P. Conn, Concord; vice-president, Dr. H. B. Fowler, Bristol; treasurer, Dr. L. B. How, Manchester; secretary, Dr. M. W. Russell, Concord; anniversary chairman, Dr. C. A. Tufts, Dover; executive committee, Drs. P. A. Stackpole, Dover, J. W. Parsons, Portsmouth, and A. H. Crosby, Concord.

The further discussion of cases and papers was then resumed and continued until 12.30, when the society adjourned.

The next annual meeting will be held in Concord, on the third Tuesday of June, 1881.

Recent Literature.

The Chemistry of Common Life. By the late JAMES F. W. JOHNSTON, M. A., F. R. S. S., etc., Professor of Chemistry in the University of Durham. A new edition, revised and brought down to the present time by ARTHUR HERBERT CHURCH, M. A. Oxon, New York: D. Appleton & Co. 1880.

Professor Johnston's *Chemistry of Common Life* first appeared some twenty-five years ago, and was one of the very earliest of those expositions in a popular form of scientific truths as affecting every-day life, which have since become so numerous and are so much read. In a judicious selection of subject matter, and in clearness and simplicity of presentation, it has not been surpassed by any of its successors. In the present edition such corrections and such omissions have been made as were demanded by the progress of science, and such additions introduced as were congenial to the original plan of the book. There is one entirely new chapter treating of the Colors we Admire. The editor has done his work in preparing this new edition for the press carefully and prudently, and has kept the volume within moderate bounds, whilst bringing it well abreast of the present day. It is quite as much a book on the hygiene as on the chemistry of common life. For the instruction of the

public at large and as a manual for schools it can be strongly recommended.

Carlsbad and its Natural Healing Agents, from the Physiological and Therapeutical Point of View. By J. KRAUS, M. D., with notes introductory by the Rev. JOHN T. WALTERS, M. A. Second edition, revised and enlarged. London: Trübner & Co., Ludgate Hill. 1880.

The same author published previously a pamphlet on the use of the Carlsbad waters for the public at large, but the present *brochure* is intended more especially for the medical profession, and is ushered in by some introductory notes from the pen of a gentleman who is a grateful patient: these would have been perhaps as appropriately prefixed to the other little treatise. Dr. Kraus is in practice at Carlsbad, and his book gives all necessary information about the place, its waters, and the different modes of employing them.

NEW YORK.

—A few days ago a girl of twenty was taken suddenly ill at the Trinity Mission Home, and died after remaining a short time unconscious. The autopsy made by the coroner showed that the cause of death was pulmonary apoplexy, which was found to be due to tight lacing. The girl had been an inmate of the above institution for three years, and it was while on an excursion to Coney Island that she became sick.

—The medical profession have always been regarded as a very law-abiding portion of the community, and this fact seems to be conclusively demonstrated by the criminal statistics of Brooklyn for the past year. During the year 25,706 arrests were made by the police, and of those arrested we learn that one was a clergyman, one an editor, eight were artists, six actors, two custom-house officers; forty-seven lawyers, and eleven undertakers, but not a single one was a physician, according to the record.

PHILADELPHIA.

—Professor Gross has sailed for Europe to attend the annual meeting of the British Medical Association at Cambridge. It is an open secret that he has been selected by Cambridge University as the recipient of its highest honors, and that the degree of LL. D. will be conferred upon our distinguished representative, so that he will be Doctor of Laws Cantab., as well as Doctor of Civil Law Oxon. May he live long to enjoy his well-merited honors!

—A curious case occurred recently at the Pennsylvania Hospital, in which a woman, moribund from a recent burn, gave birth to a foetus, still-born, at eight and one half months, which presented blistering of the surface of the body in a region exactly corresponding with the mother's injuries. This case will be fully reported, with carefully prepared drawings of the appearances of mother and child, in the *American Journal of Medical Sciences* for next October or January. It is a beautiful example of maternal impression in the last month of pregnancy. The child was alive and the foetal heart was heard only a few hours before birth. No syphilis was present; the child in every other respect was well formed.

Medical and Surgical Journal.

THURSDAY, JULY 22, 1880.

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THE RELATIONSHIP OF PHTHISIS AND TUBERCLE.

CONSUMPTION's ghastly form had, doubtless, long been familiar to clinical observers even before Hippocrates wrote his celebrated treatise upon Pulmonary Phthisis, in which he acutely observed that the reason pulmonary abscesses were so difficult to cure was because they were hidden in the interior of the body where they were inaccessible to ordinary surgical treatment. Since the time when this unfavorable tendency of phthisis was observed and the reason incidentally pointed out, many treatises have been written upon this topic, and much light has been thrown upon tubercle and its clinical history; but notwithstanding our boasted advantages the clinical picture remains much the same at the present day as it did twenty-three centuries ago; and while it is now claimed that improved methods of treatment have placed incipient phthisis among the curable diseases, we are still compelled to acknowledge that year after year this deadly scourge is ever with us, and in our cities is responsible for no less than one fourth of the total mortality of the population. And now if the question be asked, What are the essential characters of phthisis pulmonalis, and what are the properties of tubercle? pathologists, from the stand-point of morbid histology, are unable to agree upon a categorical statement of opinion. Some years ago, from the able teachings of Bayle, Laennec, and Louis, the medical world had pretty well settled down to the conviction that tubercle was the specific product of a diathesis; that there were two varieties of it; and that, when deposited, tubercle caused irritation and unhealthy inflammation. Rokitsansky also clearly enunciated the doctrine that both the gray and the yellow exudations were varieties of tubercle. From this stand-point we have widely wandered, chiefly under the influences of seductive strains from the land of the Lorelei, while distinctions have faded away and differences become reconciled, until, in the mind of many, phthisis means half a dozen morbid states, and tubercle, if not quite regarded as a figment of the fancy, has lost the specific characters that it was fondly presumed to possess, and is now a result of retrograde metamorphosis, granular detritus, and degenerated epithelium, mixed up with wrecks of adenoid and connective tissue in various stages of fatty change, cretification, or softening. The dictum of Niemeyer has now become as familiar as household words: "The greatest danger of a consumptive patient is that he may become tubercular" (whatever that may be assumed to be).

There are now signs of reaction from the doctrine of negation. Too much has been said about what tubercle was not; too much has been conceded to inflammation. The limits of pathological anatomy in this question have been attained; the microscope having failed in detecting the distinctive character of syphilitic pus, disappointment has likewise followed dependence upon it for the recognition of the specific vital properties of tubercle. A return to the clinical study is our *dernier ressort*, but we now approach the question with all the light thrown upon it by the numerous physiological experiments of capable observers. As evidence of a return to the teaching of Laennec, we observe the writings of Charcot, and more particularly a very significant paper by Da Costa, recently read before the Philadelphia Pathological Society, entitled *Some Points in the Pathology of Tubercle*.¹ In this article our distinguished clinical authority discusses the question, What relation does tubercle bear to inflammation? and declares that "the process [of tubercularization], whatever it be, is something special, though something of which we do not hold the key." Reviewing the experiments of Villemin, Cohnheim, Bollinger, and others, he further declares that they seem to prove "that tubercle may be transmitted by inoculation, either of true tubercular matter or so-called tubercular pneumonia; that the resorption of tubercle and infection of previously healthy parts is a view sustained by evidence; that the production of tubercle from non-tubercular material, either by inoculation or inhalation, is not proved." After discussing the histology of so-called caseous pneumonia, he recognizes no generic difference between its well-known lesion and tubercle, and says, "if we call this affection at once 'tubercular pneumonia' we are, I verily believe, much nearer to the truth than in endeavoring to separate it from tubercle altogether," and quotes clinical experience in support of this view, — cases in which caseous pneumonia ended in undoubted evidences of tubercular development. He advocates the view that "*caseous pneumonia leads to tubercle elsewhere, because it is really tubercle already*;"² and that it is not the products of ordinary inflammation, but the tubercular products which infect."

The correctness of Virchow's conclusions are accepted in the paper now under consideration to the extent of admitting that we cannot assume all kinds of caseous degeneration to be tubercular, inasmuch as they appear also in purulent collections and in cancer, while microscopically they are not to be distinguished from the so-called cheesy degeneration of pneumonic phthisis. This he declared to be the great difficulty of admitting his argument; but it is only apparently so, because similarity of appearance is very far from identity of structure, and where the microscope fails clinical observation comes to our aid. The author explicitly declares his opinion as follows: "I believe, then, that pneumonic phthisis is a tubercular pneumonia, and that the inflammation is tubercular from the onset, or has acquired a tubercular nature from changes

¹ Transactions of the Pathological Society, Philadelphia Medical Times for June 19, 1880.

² Italics our own.

in the cell life, which we do not understand." The present clinical distinctions will not be obliterated by this view, but "if the so-called pneumonic phthisis has a separate history, gives points for special diagnosis and prognosis, requires different treatment, it ought, no matter what our views of its real pathology, to be recognized as a distinct form. But," he concludes, "let us go no further; we are leaving the broad highway for rough and tortuous paths, when, as is the tendency of the present day, we attempt to sweep all cases of lung destruction into the phthisical category."

Since the reading of the above, an abstract of Cohnheim's monograph has appeared¹ in the *British Medical Journal* for May 8, 1880, in which very similar conclusions are arrived at concerning the specific characteristics of tubercle, which is declared to be due to a special inoculable poison. The fluctuations of opinion in regard to the pathology of tubercle are well exemplified in the medical literature of the last twenty years; and to the physiologist, accused of annually altering his facts, it is gratifying to see that since pathology is not an exact science it not infrequently demonstrates its progressive condition by accepting changes when they are duly authenticated by physiological experiment.

MEDICAL NOTES.

— Dr. Henry P. Walcott, of Cambridge, has been appointed and confirmed as health officer of the State Board of Health, Lunacy, and Charity. Dr. Walcott is favorably known in connection with an able report on the water supply of Cambridge, and his appointment is regarded with satisfaction by the profession.

— We regret to learn that our Chicago correspondent, Dr. Norman S. Bridge, was lately the victim of an accident with an elevator, in which, by much presence of mind, he narrowly escaped serious injury.

— From Paris we learn by cable of the death of Dr. Paul Broca, a distinguished French surgeon.

PHILADELPHIA.

— The new State Insane Asylum at Norristown, was opened July 12, 1880, for the reception of patients.

Miscellany.

LETTER FROM LONDON.

MODERN NURSING.

MR. EDITOR, — Some of your readers who systematically look into the English medical journal will have noticed sundry references to a dispute at present going on at Guy's Hospital between the doctors and the lay authorities on the mode of nursing employed at the hospital. As this is only one of many such disputes which have taken place during the last few years in England, and as the question is one that affects all countries alike, I propose to give you some account of the quarrel and of the circumstances which have gradually led up to it.

¹ Die Tuberculose vom Standpunkt der Infectionslehre.

There is no doubt that until within comparatively recent times, certainly within the last fifty years, nursing, both in hospitals and in private families, was a branch of medical treatment that was grievously neglected. The occupation of nurse was looked upon as one quite unfit for a lady, and indeed as beneath that of domestic servant in the social scale. It was consequently resorted to by those who were too old, or from any cause too incompetent, to do anything else, and those who are old enough to remember the state of things in the hospitals half a century ago would probably tell us that the pictures drawn by Dickens represent with little exaggeration the class of women who were to be found in the wards, and on whom doctors had to rely in their private practice at that time. Little by little, however, matters began to mend. The appearance of Martin Chuzzlewit may have had something to do with this improvement; but what was probably much more efficacious was the awakening of the philanthropic spirit called forth by the general stimulus given to all movements, religious, social, and commercial, by the construction of railways, and by the special stimulus given in this particular direction by the rapid increase of population, necessitating, as it did, the establishment of many more hospitals than had hitherto existed. These new hospitals, instead of being possessed of large private incomes similar to those enjoyed by St. Bartholomew's, Guy's, and St. Thomas's hospitals, making them completely independent of the outside public and careless of what might be said about them, had to depend solely upon the public for support, and were therefore responsible to it for the disposal of the money intrusted to them. Hence arose the committee system, which is so prominent a feature in the management of English charities; and on these committees are to be found, as a rule, the most philanthropic of the philanthropic, — those, in fact, who are willing not only to give their money, but to give also no small portion of their time, to the charity in which they are interested.

As soon as this change had been introduced in the method of administering charities, it was certain that abuses such as that which existed in the nursing department would no longer be allowed to remain unchallenged, and from that time an improvement began, which gradually made its influence felt even in the most conservative of the older institutions. Reforms of this kind can never be made all at once. In the first place the would-be reformers, although fully aware of some of the more flagrant wrongs in the existing system, have rarely themselves advanced a very great distance on the right road; in the next, even supposing they have clearly before their minds the end which ought ultimately to be attained, there is always so much dead weight of conservative opposition to be got over that the advance must necessarily be slow; and, further, in a practical reform of this kind it is necessary to manufacture the material with which the reform is to be carried out before much progress can be made. This in the case of nursing was a matter requiring considerable time, and what with one difficulty and another so long a time has been requisite that we are still some way from reaching even an approximate state of perfection; and it is in the endeavor to advance rather more rapidly than they had hitherto been doing that the lay authorities at Guy's Hospital have raised such a storm over their devoted heads.

One of the later results of the general awakening of religious feeling which took place in England about

forty years ago has been the establishment of sisterhoods, connected with the church, whose members correspond in many points to the Sisters of Mercy everywhere present in Roman Catholic countries. These sisterhoods are chiefly composed of single ladies of the upper and middle classes, who for one reason or another are anxious to have some more solid occupation than that which they find in their daily life at home, and who wish to unite this occupation with the religious sentiment, which so many of them have in a high degree. To this movement is largely due the gradual enrolling of educated ladies amongst the ranks of the nurses, though the result has been greatly aided by the energy of other ladies who have entered on the work independent of any connection with a religious body. Gradually these ladies have made their influence felt over a constantly increasing area, and nursing has grown almost to the dignity of a profession. The nursing in most of the hospitals has been wholly reorganized, has been placed upon a thoroughly systematic footing, and it is almost unnecessary to say that it has been very much improved.

The chief reason why the introduction of a new system of nursing into hospitals has in so many cases given rise to trouble is to be found, I believe, in the way in which the change has been brought about. It may appear strange, but there is undoubtedly a tendency on the part of many hospital committees to ignore the medical staff altogether on questions of hospital management, or at any rate to treat the views expressed by members of the staff with but scant respect. There is a similar tendency on the part of certain of the bodies, religious or other, which have made hospital nursing their specialty; and the natural result is that when the former call in the aid of the latter the doctors sometimes find themselves left very much out in the cold. The new lady superintendent, a sister superior, as the case may be, comes to her work full of zeal and enthusiasm. She finds the nursing department in an unsatisfactory state, in various ways, and feeling herself to be responsible to and backed up by the lay committee she sets to work with a will to put everything to rights in her own way, without reflecting very much of what the medical staff may think of the matter. The medical staff generally numbers amongst its members a considerable proportion of physicians and surgeons who have worked at the hospital for many years, who have naturally become somewhat conservative as regards the management of the wards under their charge, and who have believed from their own personal experience that the nursing department required but little change, since it is not generally in the actual nursing that change is called for, but rather in the general arrangement of the nursing department and the rules of conduct for the nurses when not actually in the ward, about which of course the staff would know nothing at all. Consequently the new arrangement introduced by the freshly appointed head of the nursing department has generally aroused a storm of opposition on the part of the doctors, which may either be quieted, or the contrary, according to the position assumed by the lady superintendent and the lay authorities at her back. If they be wise they will take the members of the staff fully into their confidence, will hear what the doctors have to say, and will endeavor to modify their plans so as to meet as far as possible the views of the staff. If the staff be very stiff-backed and oppose any change whatever, they will go to work quietly, and instead of

attempting a revolution all at once they will introduce one little reform after another, until after a time they will have attained the ends they had in view without having quarreled with any one. Unfortunately, however, tact is a rare virtue in this world, and too often a totally different course is pursued. The lady superintendent considers that her department in the hospital stands out distinctly from the purely medical, and that, this being the case, the doctors have no more right to interfere in any arrangement she may think proper to make than she has to interfere in the arrangements of the doctors. Now, though true up to a certain point, and though doubtless capable of being applied in some degree to hospitals, this principle is not a perfectly correct one. The doctors' and the nurses' departments cannot but be mutually dependent; some guidance, in so far as they depend upon one another, must come from one side or the other applicable to both sides; and the doctors being wholly responsible for the conduct of the cases, and moreover standing on a somewhat different platform to the nurses, the guidance must come from them. When, therefore, arrangements in the nursing which immediately affect them are altered without their consent a protest ensues. If, at this point, the superintendent of nursing stands on what she supposes to be her rights, a struggle is inevitable. The next stage is an appeal to the lay committee, or to the proper lay authority in charge of the business affairs of the hospital. As a rule the lay authorities, instead of smoothing matters over and inducing the disputants to come to a compromise, back up their newly appointed superintendent through thick and thin; she was appointed with the view of introducing reforms, and she must be supported in the work she has undertaken. The breach is thereby widened, all kinds of side issues are introduced into the conflict, and the matter either ends in the resignation of the lady superintendent, or of those members of the committee who have taken an active part with the superintendent; or the staff may resign *en masse*, — all of which results have come about in different hospitals within the last few months. In one other case a compromise was arrived at after a long and heated struggle, and in the case of Guy's Hospital the dispute is at present at fever heat.

As regards the special circumstances connected with the quarrel at Guy's, it matters little what the first offending action may have been. The real cause for the quarrel was very much what I have sketched above, and before it had lasted very long so many side minds and so much personality had been introduced that the original cause was nearly lost sight of. It has latterly resolved itself into this. The staff exceedingly dislike the lady superintendent, and are determined to do all they can to get rid of her. The lay authorities are determined to support her and to carry out all the reforms in the nursing suggested by her; and it is now merely a question which side can hold out longest. There can be little doubt which will win in the long run. The lay authorities have an assured income of \$200,000 (£40,000) a year at their disposal, and they care little whether the doctors resign or not; the doctors, on the other hand, cannot afford to cut their connection with the hospital and school, and are therefore practically impotent in the matter, since nothing is to be gained by mere protestation. They will have to give in ultimately, and so far as an outsider can learn, except for the sentiment of having been beaten, they will be none the worse for doing so, whilst the

hospital will probably be better. A little more tact on the part of the lady superintendent would probably have enabled her to do all she wanted without difficulty; a little more self-command on the part of the doctors at first would probably have avoided a struggle which can do them no credit, whilst it will have weakened their position. The dispute is an unfortunate one; but if it should have the effect of teaching caution to lady superintendents and to lay authorities, and of suggesting an increased spirit of compromise to the doctors, it will not have been altogether useless. A disagreeable and complicating episode in the affair was the publication in the *Nineteenth Century Review*, the most widely read of all our high-class monthly periodicals, of a paper by a Miss Lonsdale, who, though a probationer in the hospital, was practically altogether outside the controversy. She wrote in an intemperate and exaggerated style, pouring oil on the fire, and rendering it much more difficult to bring the contending parties together. It is satisfactory to add that she got well snubbed on both sides, the doctors convicting her of misstatements innumerable, and the lay authorities censuring her for mixing herself up in matters with which she had nothing to do. Spite of this, however, she was the cause of much mischief, because the passions aroused on both sides by her article were not allayed by the disavowal by the lay authorities of any connection with her.

INSTRUCTION AT LEIPZIG.

MR. EDITOR, — I have ventured to send you a few facts regarding the course of medical instruction in the university at Leipzig, knowing that the mass of American students and young doctors who come abroad make their way to Vienna; and as I pursued a somewhat different plan last winter, I thought it might be useful to those of your readers who intend coming abroad to learn something of the former university in making up their minds as to the best course to pursue.

My chief object in remaining in Leipzig was that, while I found quite enough in the three courses which I took and the reading which they involved to satisfy me, I was enabled at the same time to devote myself to learning the language much more easily than in going where one meets his own countrymen every hour of the day in the lectures, and has rare opportunities of speaking and reading German. Unfortunately, as my decision to remain there was made somewhat late, and as the course in histology conflicted with Cohnheim's hours, I was unable to obtain a place for his demonstration and microscopical courses, but merely listened to his lectures every day upon general pathology. The demonstration course takes place twice a week, two hours at a time, during which pathological specimens are handed around and lectured upon. The microscopical course also occurs twice a week, two hours at a time. In both of these exercises Cohnheim's assistants, Professor Weigert and Dr. Huber, are invariably present to aid him in instructing the students, and there is said to be always a wealth of pathological material; the mere fact that there are on an average two autopsies every day of the year from the neighboring hospital proves this. In addition to these general courses there are private ones for those wishing to make a specialty of this subject, and private laboratories are provided where one may work when he pleases. Op-

portunities are also given to the students for making autopsies. All of Cohnheim's exercises are conducted in a fine, large building made expressly for the purpose, near the hospital and other buildings belonging to the medical department.

Wagner's clinic for general medicine, which occurs every day and lasts an hour and a half, is very fine. In addition to the fact that he has plenty of material from the large hospital to show, he is a superb teacher, being slow and distinct of speech and methodical in making his diagnoses, all of which qualities are most important to one having only a slight knowledge of the language. The students are supposed to take part in the exercises, and are called upon to make their diagnoses in the presence of the others, but one may inscribe his name as a listener (*Zuhörer*) if he chooses. The exercises are all conducted in a new amphitheatre connected with the hospital, and the patients are wheeled in on their beds and there lectured upon. Every autopsy is witnessed by the students, and demonstrated either by Wagner or his assistants, and as there is little or no prejudice in Germany against the custom of making post-mortem examinations one has every facility afforded him for following a case from beginning to end. In connection with this clinic are the ward visits made by the young physicians residing in the hospital, four afternoons in the week. I found these of special advantage, for one can often get a general idea of a case which afterwards appears in the clinic to be lectured upon by Wagner. In these visits the students are "quizzed" by the physicians, and plenty of opportunities given for the examination of patients. A very good course also in auscultation and percussion was given by Wagner's assistant, Dr. Strümpell, two hours every week.

My third course was in normal histology, with Ludwig's first assistant, Dr. Gaule. The advantage of this course in the winter semester is the small number of students who take it at that season, thus enabling the instructor to give more time to each. It takes place two afternoons a week, two hours at a time, Dr. Gaule lecturing upon each subject, and then explaining with the microscope. Most of the preparations are made by him, but may be retained and preserved by the students for their own future use. In addition to this there is an afternoon when instruction is given in making the preparations (cutting, coloring, preserving, etc.), and each student is at liberty to work every day in the laboratory, Dr. Gaule being near at hand to answer questions. As to other courses I can say nothing from personal experience. Students who make a specialty of physiology with Ludwig are enthusiastic over the work in his laboratory, it being expected that some original work shall be done there as a general thing. The anatomical and chemical buildings are very large, light, and commodious. The polyclinic is also near, if one should wish to attend courses there. Professor Erb, of Heidelberg, has lately been called to Leipzig, which offers a good opportunity for studying nervous diseases and electrotherapeutics.

The appointed time for the beginning of the winter semester is about the middle of October, few if any of the exercises getting fairly under way till one or two weeks later. It is important, however, to be there in due season, as one is thus able to secure in the large clinics a good seat near the front, which he can retain for the whole semester by fastening his card on

the back of the chair, a custom not observed in two other universities I have visited, but important where there are so many students as in Leipzig.

The question will naturally arise, What are the relative advantages of a winter in Leipzig and Vienna? To this I should reply that if I were to remain abroad but one year I should most certainly go to the latter university, because one can obtain there a number of private courses which he cannot find in the former, and which are important to one who wishes to perfect himself in certain branches. If, on the other hand, he has the prospect of a second year to devote to Vienna, and wishes to learn German in addition to getting quite enough fine medical education to keep him busy, then I think he would never regret a winter in Leipzig. In that city easy access is to be had to German families (the best method of learning the language), the price of a good room, including meals, light, fire, service, etc., varying from ninety to one hundred and forty marks (about twenty-two to thirty-five dollars) a month. The price of each university course varies from twenty to thirty-five marks. As to the comparative advantages of Leipzig and the small German universities I can say nothing from personal experience.

I append a few methods of treatment in certain diseases, and records of a case seen while in Leipzig. In acute articular rheumatism salicylic acid is always used, ten grammes being given in three separate doses during twenty-four hours. It is considered there a specific for the disease, and the remedy is continued in the same doses for two or three days after pain has disappeared, and then gradually diminished, experience with large numbers of cases having shown that by lessening the dose too quickly a return of the symptoms is very apt to occur in a form which does not yield so easily as in the first attack. In cases of quiet delirium following its use the medicine is omitted, unless pain and swelling of the joints are present, in which case it is continued in smaller doses, no harm resulting. If delirium is severe, however, it is omitted. In case vomiting follows the use of the acid, and the addition of a little morphia does not check it, the salicylate of soda is substituted by mouth, or it is administered as an enema, ten grammes of the drug in sixty grammes of water and twenty drops of laudanum being given at one time. The latter method, however, is not considered so effectual.

Albuminuria has been occasionally noticed in previously healthy people after the use of salicylic acid, in which cases it was omitted, and no evil results were observed. Severe kidney affections following the use of the drug have been once recorded in Leipzig.

A simple and often effectual remedy is much used in cases of asthmatic affections where there is also great fetor of the breath, namely, the inhalation of impure turpentine through a common inhaling bottle. I have seen great relief, both from the disagreeable odor and distress, experienced by an inhalation of two or three minutes, repeated *ad libitum*.

In typhoid fever cold baths are used with few exceptions, usually when the temperature per rectum is 39.8° and above (Celsius). When severe bronchitis, marked cerebral symptoms, affections of the larynx and ear, are present, or when the patient is extremely exhausted and has an unconquerable aversion to the bath, an exception is made.

The following case of lympho-sarcoma is interesting from its resemblance to leucæmia or pseudo-leucæ-

mia, for both of which it could have possibly been mistaken:—

The patient, a man, twenty-five years of age, entered the hospital November 27th, having complained for three months of pain in left hypochondrium and of swelling in the right side of neck, previously having been perfectly well. Examination showed the patient to be anæmic; glands in right neck enormously enlarged, obstructing respiration somewhat; abdomen distended, especially in upper part; and a tumor in left hypochondrium, which upon palpation strongly simulated the spleen. Glands in the axillæ somewhat enlarged. Nothing else abnormal to be detected. Percussion over the spleen showed it to be in its proper position and of normal size.

Diagnosis made by Wagner was lympho-sarcoma, examination of the blood having shown the number of white corpuscles to be normal, which excluded leucocythæmia, while the normal size of the spleen proved the absence of pseudo-leucocythæmia, in which disease that organ and the lymph glands are enlarged without increase in the number of white corpuscles. Patient was given iodide of potassium and iron, and the glands painted with a solution of iodoform and collodion. Slight fever was noticed, and the glands lessened a little, but two weeks later the man suddenly died with symptoms of peritonitis. The autopsy showed an enlarged retro-peritoneal gland in the left hypochondrium, much resembling the spleen in shape, and many smaller ones; moreover, enlargement of the cervical and axillary glands. General peritonitis was also present. Examination with the microscope proved the growth to be sarcomatous. The case is interesting from the fact that if the region over the spleen had not been carefully percussed the tumor could easily have been mistaken for that organ, and hence a diagnosis of pseudo-leucocythæmia made.

Yours truly, VINCENT Y. BOWDITCH.

STRASSBURG, June 21, 1880.

THE ITALIAN UNIVERSITIES.

THE following interesting letter is from the pen of a correspondent of the *British Medical Journal*:—

The old University of Pisa, where Cesalpinus, in the sixteenth century (1569), first demonstrated the course of the blood through the aorta, has of late years recovered a slight measure of its former importance. For more than a century and a half it languished under Austrian rule, and suffered both in revenues and in the number of students frequenting it. Since the consolidation of Italy under one government, and the great vindication of political liberty which the last twenty years have witnessed, there has been a thorough awaking of half-dormant faculties. The country generally has become more alive to the value of liberal studies, and more inclined to support them with generosity and zeal. This has been shown, among other ways, in the welcome that has been extended to foreign teachers, and the inducements that have been held out to such men to settle in the country. The appointment of Professor Schiff and the late Professor Boll as teachers of physiology in the universities respectively of Florence and Rome was a good instance of this new spirit of enlightened liberalism. The truth is—and well-educated Italians feel it acutely enough—the country is scarcely as yet in a position

to supply the highest teaching in many branches of science. Notably is this the case in biology and comparative physiology. Until within the last half generation or so there was a comparative dearth of all the appliances necessary for such teaching; there were no laboratories, no systematic lectures, no professors, and no money. The most earnest minds in every walk of life were occupied, almost to the exclusion of every other thought, with politics and the emancipation of their country. That great idea was pursued by professors and students, by aged men and by mere lads, with an intensity and earnestness to which England could probably never afford any parallel. Once, however, the great struggle over and the battle won, the national energies quickly assumed their normal directions. The discoveries which had been made in England, France, and Germany, in the domains of biology, histology, and comparative anatomy and physiology, during the last thirty years, were not without their influence on the more thoughtful minds of Italy. An earnest and successful attempt was made, and is still being continued, to transplant to a not uncongenial soil the learning, and, what is far more important, the methods of exactitude and patient research which characterize at the present time the scientific work of England, France, and Germany.

In Italy, there exist peculiar facilities for the establishment of scientific schools of medicine. From Padua to Salerno the country is dotted over with ancient seats of learning, many of them dating back six or seven hundred years. These have for centuries been real universities in every sense of the word; they have ministered to all classes of students, and have taught every branch of learning. Their fame used often to spread beyond their own narrow borders, and attract from generation to generation the most earnest and able students from the north and west of Europe. The halcyon days when Vesalius and Galileo taught at Padua, when Cesalpinus demonstrated at Pisa, when Servetus and Riolanus and Fabricius ab Aquapendente were names that drew students from every land, have probably passed away, not again to return. The tide of scientific as of commercial enterprise has set in other directions, and it will not be easy to change its current. Still much may be done to improve the actual condition of things. It is in this direction that the friends of scientific research and higher education in Italy have been of late busily working. They have commenced by adapting, as far as possible to the changed circumstances of the age, the means and the appliances they found ready to their hands, altering or modifying them as required. Thus in many of the old universities the system of instruction has been completely revolutionized. This is the case especially at Rome and Naples, and in a less degree at Padua, Bologna, Sienna, and Pisa. In Pisa a great deal has been done in the way of providing improved facilities for laboratory and clinical teaching. A sum of over fifty thousand pounds has been spent on buildings alone. This, for Italy, large amount has been provided exclusively by government, and in such a poor and heavily taxed country speaks volumes for the liberality and enlightenment of those in office.

The University of Pisa as at present constituted consists of four faculties, namely, law, medicine, philosophy, and theology. These are each carried on by their respective professors, who receive their salaries directly from the government. The medical faculty is the largest and best endowed.

The number of students at present attending the university may be set down at four hundred, of whom this year about one hundred and twenty are medical. The course of study extends over six years, exclusive of the preliminary training which has to be undergone before the candidate can commence his purely professional studies. The division of them is much the same as in England. The student is compelled to spend his first two years in acquiring a knowledge of anatomy, physiology, and cognate subjects. The next four are spent in clinical studies at any university he chooses to select. The last two, however, must be spent at one of the larger ones, such as Rome or Florence, where "complete courses" are given. By this is meant instruction in all branches of medicine, such as insanity, ophthalmology, skin diseases, etc., for which the smaller schools, such as Sienna, Padua, Salerno, or Pisa, do not afford sufficient clinical material. In the liberty of choice thus granted to students the universities of Italy resemble those of Germany. There are many advantages in the system, and some few disadvantages. The earnest student is free to get his learning where and how he will; he can select his teachers; and eloquent and able teachers can in turn collect a large number of students around them, and extend their own names and fame beyond the limits of the university in which they teach. On the other hand, the idle and vicious are enabled by frequent changes of abode to practically escape all surveillance and discipline, and to enjoy an amount of license quite incompatible with English notions and traditions. One important point as regards the examinations deserves notice. They are all conducted by government officials appointed for the purpose, so that in the multiplicity of schools there is no real danger of a lowering of the standard of medical education by unworthy competition. In this respect they are on a par with the Queen's University in Ireland, in which questions for examination were framed in Dublin and distributed to the various colleges throughout the country.

As already remarked, a large sum of money has within the last few years been spent in providing the Medical School of Pisa with the latest and best appliances for research and instruction. The new classrooms are models of their kind; well lighted, well ventilated, scrupulously clean, and fitted with all modern conveniences. The lecture-theatres are fitted with arrangements for shutting out daylight when required, and with a mechanism by which the lecturer can at will circulate one or more microscopes or pathological specimens among his audience without fear of breakage or loss. The dissecting-rooms are paved with encaustic tiles, and are ventilated by a very ingenious arrangement. The gas jets around the walls are fed exclusively by air, which passes through the tables on which the subjects for dissection lie, and thus the foulest air is necessarily consumed as soon as generated. Each table has its own water-supply, and the room generally is provided with plenty of microscopes, diagrams, and books of reference. The pathological museum is very well furnished, especially in preparations illustrating diseases of the bones. The teratological collection is exceptionally rich, both in human and in zoölogical abnormalities; while the materials for the study of comparative anatomy are far superior to those which exist in any of the large London schools.

Clinical instruction is given in the *Nosocomio*, or

general hospital, founded in the sixteenth century. This contains about three hundred beds, and is supplied from the whole province of which Pisa is the official centre. A large number of severe surgical cases are annually received, and all the major operations are performed at comparatively frequent intervals. The large and busy sea-port of Leghorn, which is only an hour's distance by rail, also sends a large contingent of accidents and acute diseases, so that there is no dearth of clinical material as regards general medicine and surgery. This, however, is scarcely the case as regards any special class of disease, the opportunities of studying which do not exist in sufficient quantity. The hospital, in its general arrangement, is perhaps scarcely on a level with the medical school. The wards, when I visited it, were decidedly too full, the floor had a sodden look, the walls were damp, and the windows opened immediately over many of the patients' beds. The ventilation appeared defective, and the atmosphere was laden with a most unpleasant and unnecessarily strong odor of carbolic acid. The nursing is done by paid attendants, who are directly under the control of the medical officers. The daily visit is made about eight A. M. At that hour students attend the clinical lectures and witness any operations which may require to be performed. The medical wards contain, as a rule, a large number of chronic cases.

Pisa has the reputation, which is not undeserved by it, of possessing a very mild and genial climate, and this fact attracts in considerable numbers consumptive invalids from Lombardy, Venice, and the southern districts of Tuscany. Malaria in one form or another is frequently met with, being, indeed, endemic in the low marshy lands between Leghorn and Civita Vecchia. There is a remarkable immunity both in the hospital wards and in the town generally from diseases of a zymotic type, and the same may be said of enthetic diseases. On the whole, the medical wards, so far as material for instruction goes, are not equal to the surgical, though in both the teaching is very thorough and scientific. Professor Landi, well known throughout Northern Italy as an ovariologist, is senior surgeon and lecturer on surgery. To him and his assistant, Dr. Layfield, I am indebted for much kindness and courtesy during my stay at their venerable university.

A CASE OF ABNORMAL PROJECTION OF THE COSTAL CARTILAGES, SIMULATING A MORBID GROWTH.

BY ROBERT M. LAWRENCE, M. D.

MARY H., widow, aged twenty-eight years, of American birth, short and rather stout. She has two children, and has had two miscarriages. Her family history is good, and it does not appear that she inherits any predisposition to rheumatism or scrofula, nor is any syphilitic taint admitted. She has had a fair degree of health, though always dyspeptic. Formerly in good circumstances, she has of late been obliged to earn a living as a factory operative, working ten hours a day.

In the autumn of 1876 her strength had been greatly taxed in nursing her husband through a long illness, and on one occasion, while attempting to lift him in bed, she suddenly felt a sharp pain in the left side, and thought she had strained something. From this time

she was conscious of a "weak spot" at this point, with some sensitiveness and pain at intervals. In March, 1878, there appeared a small, hard swelling, apparently a tumor of some sort, on the cartilage of the eighth rib of the left side, and shortly afterwards she came to the writer for treatment. She was told to apply iodine paint, and was put upon a course of iodide of potassium, beginning with twenty grains daily, in three doses.

I may state here that, although other alteratives and tonics were given at different times, the treatment was chiefly by this drug, the quantity being gradually increased to seventy-five grains a day. No disagreeable effects were observed which could fairly be attributed to the drug.

Meanwhile the swelling increased in size, until it formed a considerable, irregularly oblong projection, four inches long, extending from a point one inch to the right of and below the ensiform cartilage downwards and outwards to the tenth rib, three inches from the median line, and occupying the position of the seventh, eighth, ninth, and tenth costal cartilages. Such were its dimensions in the middle of July, 1878.

Previous to this time, or early in June, another swelling, similar to the one described, appeared in a corresponding position on the right side, and apparently passed through the same stages of growth until it was of equal size with the first one. During the next three months both sides seemed to undergo a slight diminution in size. At the present time the shape of the chest is quite abnormal, the two projections forming a bulging, pigeon-breast-like deformity. The patient's health has been of late materially affected. She complains of obstinate pains in the back, loins, and bowels. Her dyspeptic symptoms have been much aggravated, and she has menstruated three times in one month, though previously regular in this respect.

If this were a case of specific outgrowth the slight diminution in size lately observed might be reasonably attributed to the use of the iodide of potassium.

Dr. C. B. Porter, who recently examined the patient, is of the opinion that there is at present no morbid growth, but simply a projection.

What, then, can have caused the deformity? Two theories suggest themselves: rupture of the costo-sternal ligaments, and consequent bulging of the costal cartilages; and, secondly, tight lacing, the constriction about the waist forcing the parts above it upwards and outwards.

CARDIAC IRREGULARITY AS THE ONLY RESULT OF FRIGHT (CARDIAC CHOREA).

THE following cases are not very startling, perhaps are not very rare, but contain symptoms of interest:—

A servant-girl in the writer's family was much distressed by attacks of palpitation, occurring upon occasions of unusual exertion or of exposure to cold; the worst one followed a long and rapid walk on a very cold evening. This led to an examination. The pulse was irregular, one beat being omitted at irregular but short intervals. The heart, on auscultation, was found to have the same peculiarity; there was an entire absence of the omitted contraction, not merely a feeble contraction, insufficient to send the blood to the radial artery. There were no other symptoms of cardiac disturbance, no murmurs, no enlargement. About two

years before the girl had been servant in a family, one of whose members was an epileptic. She had been told that the young man had fits, but the nature of these was not described. A loud scream ushered in the epileptic paroxysms, and without warning she was present at the beginning of such an attack: the peculiar, and to her frightful, scream, followed immediately by violent convulsions, frightened her. From that time she was troubled with palpitation. Considering it a case analogous to chorea, in which the heart alone was affected, arsenic was given,—Fowler's solution four or five drops. The palpitation was relieved in a very short time. After a little while the medicine was omitted, and soon the attack of palpitation recurred. The Fowler's solution was given again, and continued longer, after which there was no return of palpitation for several months while she was under observation.

A Mr. G., aged thirty-two years, had two frights when a boy, one at eight years of age and again at about ten years of age. In both cases he fell into the water. After this he had frightful dreams, waking up in great terror. He has always been startled easily by little things.

About five years ago he had pneumonia, and after that noticed an irregularity of the heart. His health was good previously, and he knows nothing in regard to the heart's pulsations. There may have been irregular pulse or not. He had never had rheumatism; habits were correct, temperate, at one time smoked two or three cigars a day, lately none. He has been much confined to business, with considerable anxiety, but has taken two weeks' vacation annually.

At the wrist pulse intermitted once in seven or eight to twelve or fifteen beats. At the heart the sound of the intermitted pulse beat was heard, but so faint as to be detected only with careful attention. There was no murmur, no enlargement.

A pill containing one grain quinine, one twentieth grain arsenious acid, was prescribed. A month later the pulse was found to intermit only after three or four hundred beats. The patient himself counted it, and reports that the day before writing it intermitted after ninety beats, again after seventy-six, and then after four hundred and twenty-six beats. It may be the attention given to counting it caused the intermission.

These two cases are of interest in connection with the fact that in chorea, where there is irregularity of action in the voluntary muscles, the heart is also often affected, and becomes irregular, not rarely developing a murmur. May not these cases be considered as cases of chorea, in which the heart alone is affected,—cardiac chorea?

The dependence of the second case upon fright is less clear than that of the first. It is quite possible the irregularity existed previous to the pneumonia; if not, the fright in early life may be looked upon as originating a weakness of that part of the nervous system controlling the heart, so that when the pneumonia occurred this was unable to bear the extra strain, and showed its weakness by the cardiac irregularity.

S. G. WEBBER.

ADVERTISING IN TEXT-BOOKS.

MR. EDITOR,—I have one hobby,—a great partiality for my Flint's Practice, and great respect and admiration for its author. It is my *principia*. Its pure classical style delights me always.

I entered my office a few days ago, in some haste, to consult my favorite upon an important matter in hand, took it down (it is getting rather weak in the back), and commenced looking up the index for the one thousandth time, more or less, and for the one thousandth time, more or less, was obliged to turn over thirty-three pages of my publisher's catalogue before I could get at my precious index. Albeit a patient man, usually, I fear I must have said something in an undertone which I would not choose my publisher to hear. Then and there, with my own hand and penknife, I cut out those same thirty-three pages, and was relieved. At the first convenient opportunity I did the same for my Pavy, Dalton, Leishman, Bloxham, Thomas, and Bryant. Now may the gods, and the publishers as well, forgive the rash deed! But I shall not be obstructed again, my time absorbed, and my patience exhausted in manipulating those thirty-three pages against my will. That is one consolation, even if the custom is still persisted in. The custom is appropriate enough in a magazine or journal, but in a text-book it is not so. Still, I can't find it in my heart to say a single uncomfortable word about those good-natured gentlemen who labor so hard to keep me posted in everything new under the sun, and incur so much expense to provide me with superfluous matter, other than to suggest, mildly, that their kindness is *misplaced*. Your annual catalogues, Messrs. Publishers, will be read with respectful attention if you will do us the favor to send them, but don't bind them up with the text-books, if you please.

D. W. NILES, M. D.

WORCESTER, MASS., July, 1880.

PLATED WIRE.

MR. EDITOR,—Will you have the kindness to inform me whether annealed iron wire, *nickel-plated*, has ever been used? If not, could it not be substituted for silver wire, for which we pay one and one half cents per grain? If you will answer either through JOURNAL or by card I shall consider it a favor.

Respectfully yours, THOMAS F. QUINBY, M. D.
MINNEAPOLIS, MINN.

We have tried nickel-plating on iron wire, kindly prepared for us by Codman and Shurtleff, with not very satisfactory results. The plating adheres better than we had expected, but is liable to flake off. In order to obtain a bright color it is necessary to polish the iron before plating it, which increases greatly the expense. If polished after plating the nickel is rubbed off. Annealed iron wire is much used in France without plating of any kind. At the Massachusetts General Hospital copper wire, silver-plated, is used for coarser threads. The finest wire is all silver.

Our experiments have given us a sufficiently cheap nickel-plated iron wire, but the plating is not sure to adhere, and the wire has a dingy, dirty color.—ED.

RESTORATION OF HAND AFTER COMPLETE SEPARATION FROM THE ARM.

THE following remarkable case, reported by Dr. L. L. Stanton, of Tarborough, N. C., is copied into the *St. Louis Courier of Medicine*, etc.:—

"On Friday afternoon, February 5, 1880, I was

called to see Mary Sumlin, a white girl aged eleven years, quite anæmic and rather small for one of her age. While helping her mother to procure fire-wood she placed her hand in the way of an axe, and at one blow had it severed from the styloid process diagonally across the trapezium, passing through the scaphoid bone and posterior annular ligament, *dividing all the muscles, bones, and blood-vessels, and completely separating the hand from the arm*, excepting a small portion of skin, below the articulation with the ulna; the hand was hanging at right angles to the arm when I saw her, about thirty minutes after the accident.

"I determined at once upon amputation at the joint above (the wrist), so returned to my office, a distance of half a mile, to procure the assistance of another physician; but finding this impracticable, I proceeded carefully to replace the hand, which was held securely in position with silver wire sutures and adhesive plaster.

"In dressing the wound the patient complained of pain when I used the needle in the arm, but none when it was used in the hand.

"I secured the hand and arm upon a broad splint, and directed that they be kept warm by being wrapped in hot flannel cloths.

"I saw her twelve hours afterwards; the hand was very much swollen; no sensation or pulsation could be detected, nor had she complained of any pain, but rested quietly during the night.

"Saw her the next day; she now complained of a little pain, but the hand and arm presented the same appearance as the day before.

"Saw her upon the third day; could now plainly feel pulsation in the hand; it had changed its color, and I now for the first time thought it possible to save the hand. From this time she did not have a bad symptom, nor was there any suppuration or secretions of any kind; the wound healed entirely by first intention.

"I removed the sutures upon the fourteenth day, and afterwards she carried the hand in a sling, and is now able to extend the fingers and grasp with nearly the usual strength. There is no ankylosis of the wrist joint, as I expected." — *N. C. Med. Jour.*, May, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 10, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York.....	1,085,000	922	576	46.74	39.48	5.95	3.36	.65
Philadelphia.....	901,380	467	260	36.18	29.97	1.71	2.78	.85
Brooklyn.....	564,400	377	246	81.43	76.12	6.36	2.65	.26
Chicago.....	—	306	229	58.49	45.42	2.61	7.19	2.28
St. Louis.....	—	169	100	37.87	30.16	2.36	—	—
Baltimore.....	393,796	209	113	38.27	25.35	1.43	4.29	5.26
Boston.....	365,000	168	75	35.71	25.00	7.73	7.73	.59
Cincinnati.....	280,000	120	51	33.33	13.33	7.50	5.00	1.66
New Orleans.....	210,000	99	33	24.24	13.13	5.05	—	3.03
District of Columbia.....	170,000	96	54	29.16	20.83	6.25	1.04	—
Buffalo.....	—	67	42	49.24	37.31	2.98	7.45	2.98
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	153,883	86	41	43.02	23.25	5.81	6.96	1.16
Milwaukee.....	127,000	50	29	24.00	16.00	4.00	2.00	4.00
Providence.....	102,000	51	28	41.17	33.33	—	—	3.92
New Haven.....	60,000	37	20	29.73	21.62	2.70	2.70	—
Charleston.....	57,000	41	19	31.70	21.95	4.84	—	—
Nashville.....	37,000	29	12	44.83	17.24	6.89	—	—
Lowell.....	54,000	21	14	33.33	19.05	19.05	4.76	—
Worcester.....	53,000	24	14	41.66	37.50	8.33	4.16	—
Cambridge.....	50,400	21	11	38.09	28.57	4.76	—	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	22	15	45.00	13.63	—	9.09	—
Lynn.....	34,000	11	4	27.27	9.09	9.09	18.18	—
Springfield.....	31,800	17	13	76.47	64.70	—	—	—
New Bedford.....	27,200	9	2	22.22	—	—	11.11	11.11
Salem.....	26,500	9	4	33.33	—	—	11.11	—
Somerville.....	23,500	8	3	50.00	50.00	—	—	—
Chelsea.....	21,000	7	2	28.57	—	—	28.57	—
Taunton.....	20,200	12	5	41.66	33.33	—	—	—
Holyoke.....	18,400	12	6	50.00	33.33	—	—	—
Gloucester.....	17,300	7	4	14.28	—	—	—	—
Newton.....	17,300	3	1	—	—	—	—	—
Haverhill.....	15,350	6	1	16.66	16.66	—	—	—
Newburyport.....	13,500	5	1	20.00	20.00	—	—	—
Fitchburg.....	12,600	2	—	—	—	—	—	—
Eighteen Massachusetts towns.....	138,560	34	9	32.35	17.64	14.70	14.70	—

Deaths reported, 3524; 2037 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1609, diarrhoeal diseases 1270, consumption 358, lung diseases 162, diphtheria and croup 133, scarlet fever 43, typhoid

fever 40, malarial fevers 35, measles 33, whooping-cough 32, cerebro-spinal meningitis 13, erysipelas six, small-pox two, typhus fever one, yellow fever one. From *typhoid fever*, New York and Chicago five each, Philadelphia and Pittsburgh four each, St. Louis, Baltimore, and Cincinnati three each, Boston

and District of Columbia two each, New Orleans, Milwaukee, Cambridge, Lawrence, and Salem one each. From *malarial fevers*, New York eight, St. Louis seven, Brooklyn five, Philadelphia, New Orleans, and District of Columbia three each, Baltimore and Charleston two each, Chicago and New Haven one each. From *measles*, New York 10, Cincinnati eight, Pittsburgh six, New Orleans two, Brooklyn, Chicago, Baltimore, and Boston one each. From *whooping-cough*, Cincinnati and Nashville four each, New York and Philadelphia three each, Brooklyn, St. Louis, District of Columbia, Buffalo, and Lowell two each, Baltimore, Boston, New Orleans, Providence, Charleston, Cambridge, and Gloucester one each. From *cerebro-spinal meningitis*, Lawrence four, New York two, Philadelphia, Chicago, St. Louis, Providence, Springfield, Taunton, and Holyoke one each. From *erysipelas*, New York two, Brooklyn, Cincinnati, New Haven, and Charleston one each. From *small-pox*, Philadelphia and Chicago one each. From *typhus fever*, Chicago one. From *yellow fever*, New Orleans one.

Twenty cases of diphtheria, 13 of measles, seven of scarlet fever, two of whooping-cough, and one of typhoid fever were reported in Brooklyn; two of small-pox and one of sporadic cholera in Chicago; 36 of diphtheria, 14 of scarlet fever in Boston; nine of diphtheria, but no new cases of scarlet fever, in Milwaukee; five of diphtheria, seven of measles, six of scarlet fever, one of whooping-cough, 10 of diarrhoeal diseases, in Providence.

Total number of deaths diminished; deaths under five diminished in the same proportion; deaths from diarrhoeal diseases diminished, the apparent increase being caused by those of Philadelphia being included. Of the total deaths under five (2037), New York, Philadelphia, and Brooklyn furnish 1082. New Orleans reports one case of yellow fever.

In 33 cities and towns of Massachusetts, with an estimated

population of 877,210 (population of the State about 1,690,000), the total death-rate for the week was 20.86 against 23.98 and 20 for the previous two weeks.

For the week ending June 19th, in 148 German cities and towns, with an estimated population of 7,678,000, the death-rate was 28.5. Deaths reported, 5583; 2344 under five: pulmonary consumption 466, acute diseases of the respiratory organs 312, diphtheria and croup 99, scarlet fever 94, measles and *rötheln* 82, whooping-cough 48, typhoid fever 45, puerperal fever 19, typhus fever (Danzig, Thorn, Graudenz, Braunschweig, Barmen, Dortmund two) eight, small-pox (Königshütte, Münster, Elberfeld, Berlin) four. The death-rates ranged from 17 in Darmstadt to 46.6 in Görlitz; Königsberg 32.8; Breslau 33.3; Munich 35.1; Dresden 17.7; Berlin 42.1; Leipzig 19.7; Hamburg 22.3; Hanover 18.1; Bremen 20.9; Cologne 24.2; Frankfurt 24; Strasburg 20.1. For the same week, Vienna 26.6; Paris 26.8.

For the week ending June 26th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 18.9. Deaths reported, 2716: acute diseases of the respiratory organs 176, scarlet fever 123, whooping-cough 103, diarrhoea 76, measles 63, fever 36, diphtheria 16, small-pox (all but one in London) 15. The death-rates ranged from 13 in Brighton to 27 in Oldham; London 18.1; Bristol 14; Birmingham 19; Manchester 24. In Edinburgh 21, Glasgow 20, Dublin 33.

In the 20 chief towns in Switzerland for the week ending June 26th, population 445,790, there were 26 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 18, typhoid fever seven, whooping-cough six, diphtheria and croup five, scarlet fever five, measles four, small-pox one. Death-rate of Geneva 20.7; of Zurich 23.2; Basle 23.5; Bern 28.2.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
July 4	29.986	70	77	61	83	63	49	65	NW	E	S	1	7	10	F	C	C	1.50	.06
" 5	29.964	78	86	63	67	64	43	48	SW	SW	SW	11	21	10	F	C	O	—	—
" 6	29.882	72	81	64	89	76	83	82	S	E	SW	12	6	6	F	F	O	3.12	.06
" 7	30.029	74	82	69	85	72	69	75	N	SE	SE	6	7	6	F	F	C	—	—
" 8	30.116	74	88	62	56	50	56	47	W	SE	SW	7	11	15	C	C	F	—	—
" 9	29.899	77	87	69	71	61	82	71	W	SW	SW	12	16	14	O	O	F	2.00	.14
" 10	29.788	84	101	70	82	34	70	62	W	SW	W	1	4	8	C	F	F	—	—
Week.	29.952	76	101	61				65										7.02	0.26

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 10, 1880, TO JULY 16, 1880.

SIMONS, J., lieutenant-colonel and surgeon. Granted leave of absence for one month. S. O. 118, Department of the East, July 15, 1880.

KIMBALL, J. P., captain and assistant surgeon. Granted leave of absence for twenty-one days. S. O. 63, Department of the Platte, July 7, 1880.

WINNE, C. K., captain and assistant surgeon. Assigned to temporary duty at Fort Brady, Mich. S. O. 116, Department of the East, July 12, 1880.

COMEGYS, E. T., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability, with permission to go beyond limits of the department. S. O. 135, Department of Texas, July 8, 1880.

ERRATA. — In the article entitled Ten Cases of Litholapaxy, by Dr. William Warren Greene (JOURNAL, July 15, 1880), the following errors occur: page 52, first column, fifth line from bottom, for "the five fingers" read "the fore-finger." Page 54, first column, sixth line, for "contracted" read "contract-

ured." Same page and column, fifteenth line, for "gram" read "grain."

BOOKS AND PAMPHLETS RECEIVED. — The Practitioner's Hand-Book of Treatment; or, The Principles of Therapeutics. By J. Milner Fothergill. Second Edition. Philadelphia: Henry C. Lea's Son & Co. 1880.

The Microscopist: A Manual of Microscopy and Compendium of the Microscopic Sciences. Fourth Edition, greatly enlarged, with two hundred and fifty illustrations. By J. H. Wythe, M. D., etc., etc. Philadelphia: Lindsay and Blakiston. 1880.

The De Lesseps Canal in its Relation to Hygiene. By G. Halsted Boyland, M. D., etc., etc. (Reprint.)

A Treatise on Comparative Embryology. By Francis M. Balfour, M. A., F. R. S. Vol. I. London: Macmillan & Co. 1880.

Transactions of the Medical Society of the State of Tennessee. Nashville. 1880.

The Diagnosis of Granular Kidney. By Robert Saundby, M. D. (Reprint from the Birmingham Medical News.)

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General, July 1, 1880. Washington: Surgeon-General's Office.

Lectures.

IV. THE PREVALENCE AND CAUSES OF INSANITY; COMMITMENTS TO ASYLUMS.

A LECTURE DELIVERED BEFORE THE GRADUATING CLASS OF THE HARVARD MEDICAL SCHOOL.

BY CHARLES F. FOLSON, M. D.

THE prevalence of insanity in the earliest times, in Egypt, Greece, the Roman Empire, among the ancient Jews, through the early Christian era, and in the Dark Ages is well attested by the literature of twenty centuries. It would be idle to attempt to guess what proportion of the population was insane at any time or in any country of the world until the most recent years. The observations of the United States exploring expeditions go to show that insanity is very uncommon among the North American Indians, as it was before the civil war among the negro population of our slave-holding States. It cannot be doubted that it is a disease chiefly of old communities and civilized races. In England, in 1859, with a population of 19,686,701, there were known 187 insane and idiotic persons to each 100,000 of the population, or one in every 535; in 1875 the number had increased to 271 in every 100,000, or one in each 365. The number in Ireland at the same time was one in every 283. In the French asylums, between 1835 and 1870, the number of insane people in asylums nearly quadrupled, and also increased from 31.6 in each 100,000 of the population to 100.3, or very nearly three times, but there are no trustworthy statistics of the numbers of the insane throughout that country. In Paris alone the admissions to insane asylums increased more than sixfold between 1800 and 1876, while in the same length of time the population was scarcely trebled. In Massachusetts asylums in 1820 there were under custody in the one insane asylum in the State fifty patients, or 9.55 in each 100,000 of the population. This number had increased to 11.34 to every 100,000 people in 1830, to 61.99 in 1840, to 84.97 in 1850, to 90.87 in 1855, to 110.55 in 1860, to 111.44 in 1865, to 130.44 in 1870, to 132.88 in 1875, and to 178.44 last year, in seven asylums. The numbers of the insane in fifty-nine years had increased in our asylums from 50 to 2976, and the rate proportionately to the population had augmented more than eighteen times. It is impossible to say how many insane people there are in the State who are not confined in insane asylums, but the number is estimated to be not far from 1000 or 1500. We cannot procure statistics of even a tolerable degree of accuracy with regard to the numbers of insane in the United States or in the several States. According to the various censuses the proportions would vary from about one in four hundred to one in as many thousand, but these figures are manifestly inexact. The statistics of England, France, and Massachusetts just given indicate an enormous increase in the numbers of the insane who become a public charge in each successive decade, and the figures gathered from all countries prove conclusively that more insane people are known to be in existence proportionately to the population from year to year. The question naturally arises, Is insanity increasing as fast as appears at first sight to be the case, or is the increase apparent rather than real?

In the first place, the definition of insanity has so

widened of later years as to include vastly greater numbers of the population than hitherto. Large numbers of persons now confined in our asylums would have been considered far from being insane a half century ago. Until about the beginning of this century the courts almost universally held that to be exempted from punishment on the ground of insanity a man must be deprived of all memory and understanding, and no more know what he is doing than "an infant, brute, or wild beast." Less than fifty years ago the capability of repeating the multiplication table was gravely propounded in an English court as a test of sanity in a case involving a large sum of money, while at that time insane asylums were veritable Bedlams, where chains and dungeons formed a large part of the treatment. Now, you will observe at Danvers that in many wards some patients are quiet and orderly; in some the inmates are as well behaved as the corresponding class of persons outside of asylums; while not a few have either self-control, moral sense, or the faculty of exact and logical reasoning to an extent which would not do discredit to a great proportion of the world at large. In a word, take ten thousand people at random now, and probably at least twice as many would be called insane as in the same number fifty years ago.

Again, it is hardly a generation ago that we began taking care of the insane. Some States have not fairly commenced yet, and even in parts of New England those of unsound mind are neglected and squalid in town almshouses or county jails. In our State, as in England, France, Germany, and wherever humanity has demanded improved accommodations for the insane, they have accumulated enormously, from the simple fact that they are protected like children, and kept from dying of neglect, suicide, and exhaustion. In other words, science and humanity have prolonged their lives of illness to as much as tenfold their natural length in some cases, if they were left to themselves, even where nothing can be done but to protract their misery. The more intelligent views now held of insanity as a disease rather than a possession by the devil have led people to be less backward in reporting their insane relatives as such, while the increasing number of insane asylums and the growing confidence in them have brought many of the insane to notice who formerly would have been concealed in attics or cellars and never mentioned. Our knowledge of an evil and the existence of that evil are thus shown not to be by any means necessarily the same thing.

The alleged frightful increase in mental disease which statistics can be made to show, certainly does not exist. Whether or not more persons become insane each year in proportion to the population we have no methods of determining statistically. There can be no doubt, however, that there is a moderate increase in that as in all other diseases of the brain and nervous system. Our mortality statistics in Massachusetts show that the deaths from insanity, paralysis, apoplexy, and unspecified diseases of the brain were 11.70 per 10,000 inhabitants in 1860, 14.06 in 1865, 14.37 in 1870, and 15.83 in 1875, which would indicate a decided increase, even after allowing for a considerable error in the earlier years from inaccurate diagnoses. The causes of this increase are twofold: first, in the greater predisposition to disease, hereditary tendency; and, secondly, in the greater number of exciting causes in our complex modern civilization, which

forces upon men such an exciting part in the keen struggle for existence, and subjects them to such deep and various affections of their emotions and feelings. The increased predisposition to insanity is one of the indications of degeneracy of stock. Under the fostering influences of our skill and humanity defectives are raised, and many who formerly would have died in early life live to maturity, marry, and beget a feeble offspring predisposed to disease. Persons suffering from the severe neuroses are able to perform the light labor demanded in many of our arts and manufactures who would soon have disappeared, on the principle of the survival of the fittest, when physical strength was necessary for existence. The desperate seeker after wealth and position expends his energy in the eager race, and leaves to his offspring a legacy of exhausted vitality, and many of the fashions of the day encourage moral weakness and physical decay. Greatest of all curses, however, in this regard is the abuse of alcoholic liquors, which certainly stores up more insanity for future generations than any other one cause. In one of Mr. Emerson's most delightful essays he speaks of the necessary degeneration of the stock produced by life in centres of population, and says that cities would for that reason soon die out if they could not recruit their exhausted strength from the country and farms by intermarriage and immigration. Insanity is one of the penalties which we are paying, perhaps not necessarily, for our many luxuries and modern culture in the transmission of impaired energy and strength to descendants, thereby increasing their chances of insanity when exposed also to its exciting causes. In former times the great pestilences swept away very many of these defectives. Now these very plagues have been found to depend upon natural laws and to be preventable. But it still remains one of the great problems with which we have to deal whether it is possible to so govern the causes of ill health that the deterioration of the race need not follow upon our complex life.

The exciting or immediate causes of insanity are extremely numerous, the disease occurring in order of frequency at the following periods of life: 20-30 (maximum), 30-40, 40-50, 50-60, 60-70, 10-20, 70-80, 80-90, 0-10 (minimum), and more often in the most ignorant and degraded class of a civilized people than among the higher and educated, reaching its maximum where civilization and misery coexist, and its minimum among barbarous people. Thus far, it has not been shown that either sex is more liable to insanity than the other. Females are more exposed to insanity connected with the reproductive function, and men to the external or objective causes of mental disease.

A physician is often asked by parents what is the cause of insanity in their children, when the only true answer can be that it is simply a natural and logical evolution from conditions in the parents themselves. Among its antecedents are not only insanity in ancestors, but also epilepsy, neuralgia, pulmonary consumption, hysteria, and especially habitual drunkenness. Excessive overwork or absorption in one great idea of money-making, with the everlasting drive night and day for position or wealth, exhausts the vital energy, and is not an uncommon source of mental disease, mysterious to those who propagate it, but readily explainable by the medical psychologist. As we have already seen, insanity, so far as it can be described as a purely physical disease, is a diffuse malady of the cortex of the brain, in contradistinction to local lesions. Its causes

are therefore general oftener than particular, and complex rather than single.

The *predisposing causes* are chiefly hereditary: drunkenness of both parents or one at the time of conception; intermarriage of persons, whether relatives or not, with a family tendency to epilepsy, syphilis, rheumatism, chorea, hysteria, habitual drunkenness, dipsomania, insanity, neuralgia, or any of the cerebral and spinal neuroses; the abuse of tobacco, opium, and chloral; frequent attempts at abortion; injuries or excessive emotional disturbance during gestation; the risks of birth in large children, including compression of the head, etc.; in fine, any conditions of mental or physical exhaustion and decay. In making up one's mind upon the point of inheritance it is necessary to examine the history not only of parents, but of grandparents, uncles, aunts, sisters, brothers, and cousins.

Among the *immediate or exciting causes* of insanity are the various conditions of ill health, now so much more commonly reported in our asylum records than fifty years ago as to indicate a decided diminution in the resistance of the race to disease; the misuse of alcohol, opium, tobacco, chloral, etc.; a stagnant life and occupations exhausting the system without furnishing suitable recreation; disturbances during the period of development and adolescence; masturbation; in women, morbid processes during the great physiological changes in conception, gestation, childbirth, lactation, menstruation, and change of life, as well as repeated abortions, uterine disease, love affairs, seduction; sexual excesses; great emotional disturbances, fright or shock, adverse circumstances, loss of friends or relatives, domestic troubles or grief, religious anxiety or excitement, disappointed affections, wounded feelings, excitement of politics, business, etc.; pauperism and want; epilepsy; injuries to the head or spine; sunstroke; the various acute diseases; the cachexia of syphilis and pulmonary consumption; heart diseases producing disturbances in the cerebral circulation.

The list of exciting and predisposing causes of insanity will naturally suggest to you how far and in what ways it can best be prevented,—a point upon which your advice will often be asked; but I have two suggestions to make: First, in regard to marriage, there is no doubt whatever that insanity, like pulmonary consumption, can be eliminated from families by wise marriages and judicious education of children. I should not hesitate in rare cases to recommend marriage even to a person who had actually been insane, especially if a woman, and her disease had been one of the curable, self-limited forms, and she were otherwise healthy upon perfect recovery, not being of a family predisposed to insanity. Second, we find that in children of parents who are trying to educate their sons and daughters so as to protect them against hereditary insanity physical education is usually the only thing sought for, while the more important self-reliance, self-denial, self-control, and development of the calm, well-balanced, strong mind is nearly if not quite neglected. If emotional causes, by constantly wearing on the mind, can so exhaust it as to produce insanity, the importance of strengthening the brain in every way possible is readily seen.

The treatment of insanity in asylums is not a matter upon which we need to dwell here; so far as it concerns patients kept at home it can be better consid-

ered when we take up the individual diseases. About two thirds of the insane in this State are in lunatic hospitals, — somewhat under three thousand in all. One thousand two hundred and seventy-nine were committed to the various hospitals for the insane during the year ending September 30, 1879. So large a number of our insane are in hospitals and so many are committed each year that it will be profitable to consider the subject of commitments to asylums in general, reserving for later lectures a discussion of the particular cases which should be confined and of those which may be treated at home.

The law provides that no insane person shall be committed to an insane hospital except by judges of the supreme, superior, municipal, police, district, and probate courts, upon the certificate of two physicians, each of whom must be a graduate of some legally-organized medical college, must have practiced medicine three years in this State, must have examined the patient within five days of his signing his certificate, which must state his reasons¹ for considering the man insane and a fit subject for treatment in a lunatic hospital. Neither of the physicians certifying shall be connected with any establishment for treating the insane. In dangerous cases, however, the judge may, upon application, order an examination and hearing in the premises, and pending that may make such order concerning the care and custody or confinement of the person alleged to be insane as he shall see fit.

There are two grounds on which individuals are confined in insane asylums: first, for their own comfort and safety or prospect of cure; secondly, for the comfort, convenience, or safety of the community. It is doubtless true that many people shirk their duty towards their relatives, and have them sent away, when with a little patience and self-denial a kind home treatment would have added great happiness to the few remaining years or to the long, tedious months of a life from which most that is worth living for has been taken away, and probably from one quarter to one fifth of the patients now in our asylums would be much better off at home, so far as they are concerned themselves, if they had any homes where they would be wanted or even endured. But not having such, they are better off under the care of responsible strangers in a well-ordered hospital. It is true also that people who want to get rid of the trouble of caring for annoying friends or connections are very apt, perhaps unconsciously, to exaggerate their mental infirmities, and so mislead the physician into believing that he has a more serious case to deal with than he would suppose from his own observation. In those cases, therefore, where the physician has only the statement of friends upon which to base his certificate he cannot consider the evidence too skeptically. In a large proportion of the insane, however, the regular habits of asylum life, the freedom from responsibility, and the feeling of a necessity to exercise a self-control which they do not attempt at home make them more amenable to reason by strangers than in their own houses. Considering the interest of society, and especially of growing children, it is better that the most troublesome of the insane should be removed, even if at some sacrifice of their own happiness.

At all events, illegal or improper commitments to

insane asylums are so rare, in our State at least, that in a dozen years only a very few have been alleged to have occurred, and in every one of them there was fair room for an honest difference of opinion as to the propriety of confining them. Wherever persons are thought to be improperly committed to insane asylums, or too long detained there, the State Board of Health, Lunacy, and Charity has the power to discharge them, whether insane or not, if in their judgment it seems best to do so. You can safely trust the management of our insane hospitals. You may often hear complaints on this point by discharged patients, a part of which doubtless have some foundation, for no large institution can be carried on by human agency without some imperfections; but when serious charges are made they should be received with great caution, and only after giving due weight to all the testimony. For the purpose of considering the bearing of this question, discharged patients may be classified as follows: (1.) Those who have recovered, and whose minds were clear enough, during a considerable part or the whole of their illness, to have received clear impressions of what was going on about them, and who have remembered with tolerable accuracy, — by no means an insignificant number. (2.) The same as the above, except that they have not remembered. (3.) Those who have recovered, and whose minds were entire blanks during their severe illness, so that they remember absolutely nothing of that time, and more or less imperfectly of their period of convalescence. (4.) Those who have recovered, and whose impressions during a large part of their residence in the asylum were more or less tinged by their own delusions; of these some finally recognize the delusional character of their previous ideas, and others never do so, although in other respects perfectly well. There are four other classes corresponding to these, with the single difference that they have never recovered. It would be very unjust and untrue to say that there are not many discharged patients from insane asylums whose testimony and general statements are fully as trustworthy as those of other people. But it is not always easy to distinguish them from the many others from whose minds the false impressions or delusions once made are never removed.

In committing to insane asylums there is one important rule, — not to use deception; for it ruins your chances of getting again the patient's confidence, so important for his successful treatment. Any amount of force is better, and is quite soon overlooked by the patient himself; but a show of force, which can be called upon if needed, is usually all that is necessary to secure a quiet and orderly removal to an asylum, except in furious delirium, where force must be used. It should be remembered that the medical superintendent of an insane asylum does not often have a good opportunity to get a history of his patient, and so it is well for the family physician either to go to the asylum, or to send a full statement of the case, such as he would prepare in other diseases for a hospital case-book. It seems to me, too, that, especially where it is not well for a patient to see his friends, it is desirable for the family physician to consult occasionally with the asylum officers, and so not to lose sight of the man in the lunatic. The law, to be sure, does not require all this, for it is satisfied if the physician states his reasons for thinking an individual insane, and also his reasons for considering him a fit subject for treatment in an insane

¹ The English law requires a separate examination and a separate certificate from each physician; but in practice the consultation is virtually together.

asylum. For this service, to be sure, a fee of only two dollars is allowed, ridiculously small in proportion to the service rendered, but it is one of those offices which republics require of their citizens for the public good, like serving on juries, etc.

I have examined a great many certificates of insanity in our state hospitals without finding more than one that really gave the superintendent an intelligent view of his case, or a very large number that entirely fulfilled all the requirements of the law; a not uncommon fault being that the statements of third parties were evidently taken, and sometimes with apparent haste, as the entire evidence of insanity.¹ It was often the fact that in the medical certificates there was no indication even that the patient was insane: for instance, that a man thinks he is to be everlastingly damned or believes in witches is no proof of insanity, for there are persons who firmly hold to such superstitions and many more absurd; but if he so thinks contrary to his conviction when well, that is another thing. One certificate contained the sole statement that there was in the case despondency and nervous excitement, but that certainly was no reason for supposing a man insane, for a sane man may also very easily be both despondent and nervously excitable. I will give some instances of defective certificates, as follows:—

Melancholic disposition and unwilling to do anything; very listless. Hypochondria. Disappointment in love, and subsequent debility, with loss of sleep. Laboring under the impression that he is in direct communication with God, who directs him in all he says and does, and is at times quite violently demonstrative. Had a severe attack of sciatica two summers ago, which, it is said, went to her head. Has frequently struck her grandchildren; often leans out of the window. Loss of memory, fits of passion, entertainment of strange notions, and wakefulness. Violent at times, very noisy, singing, screaming, and crying. Cause, puerperal state; duration, about ten days; no previous attacks; mild? suicidal. Cause, epilepsy; duration of epilepsy, three years; violent at times. Turn of life; menses irregular, but have not ceased. Epilepsy since infancy; fits severe, and nearly every day; father and mother both intemperate; duration of disease, many years, no worse for two years; mind gradually weakened for some time; never has done any violence, his uncle says; father has just died, and there is no one to take care of him; drinks beer when he can get it. Violent and unmanageable at home, and can be better treated at a lunatic hospital. Cause not known; duration, some weeks; previous attacks not known; violent at times; habits in regard to temperance not good. Cause unknown; duration very recent, if she tells the truth; no previous attacks; came to America a week ago yesterday, and remained a week at St. Joseph's Home; was only a day in a place; had not been sick or depressed, but did not sleep well night before last, and head felt queer all day; at ten o'clock, P. M., tried to hang herself, it is said; don't remember it, but says she remembers coming to herself soon after; says she was not homesick, and don't know why she did it; talks rationally enough now. When seen by me could not be induced to answer any questions; seemed frightened, and was evidently quite weak; has been depressed for some time, very much so of late; sent to — hospital two or three weeks ago; excited and apprehensive of

¹ The blank of the McLean Asylum was shown as the best in use, and fulfilling all requirements if properly filled out.

danger. Supposed cause, puberty and disturbances connected with it, notably masturbation. Generally very mild; occasionally violent if angry, but not dangerous. Violent; partial mental weakness, with extreme and constant nervous actions, requiring constant watching by day; troubles her infant sister. Supposed cause, alcoholism; duration, two years; frequently violent; a drunkard. Very excitable; boasts that he can do any kind of tailoring, when he is incompetent to do any well; makes love to shop-girls after a half hour's acquaintance; drinks moderately; quite maniacal, noisy, and incoherent. His conversation and actions. He is violent and dangerous. He is intemperate, but in our opinion a latent insanity is developed by the moderate use of intoxicants. Cause, uterine displacement, followed by typhoid fever. His conduct has been and is at present such as to render it perfectly obvious that he is insane. Previous attack of a similar nature, and continued observation during medical attendance. Has been examined and found to be insane by reason of masturbation. Critical age and intemperance seem to be the exciting causes; the result of these is necessarily temporary. We give as our opinion that the case is susceptible of a speedy cure; that if the intoxicants are kept from the patient the case will immediately take care of itself. (1.) He admits having certain symptoms indicative of general paralysis, such as epileptiform attacks and loss of memory, with confusion of ideas; he shows decided paralytic defect of speech and moderate paresis of hands and feet; he desires to go to the insane hospital for treatment. (2.) Has had epileptiform attacks, muscular tremors, loss of memory, severe headache, confusion of ideas, inability to take care of himself, and desires hospital treatment.

The last gives the opinions of the two physicians separately, as they should be, and complies fully with the law, but it does not give the asylum superintendent a medical history of the case; the others are all defective in one way or another. It is evident that very often the physicians signing the certificate have not themselves a full and clear notion of their patient's condition; *this always* should be got before the great responsibility is taken of shutting a man up behind locks and bars, possibly for life. Never hurry in sending a man to an asylum, unless he is dangerous to himself or to others, or is doing real harm, provided he can be properly cared for outside. A few days' or even weeks' delay in committing him will not often interfere with the chances of recovery in acute cases; it will give an opportunity for thorough study of the case, and is not infrequently sufficient for such an improvement in the symptoms as to render removal from home not only unnecessary, but unadvisable. It is important that the proper treatment should be early adopted in the curable forms of mental disease; but it by no means follows that this early treatment can be carried out only in an insane asylum.

— The annual meeting of the British Medical Council was opened July 7th, Dr. Acland presiding. Among the questions to come before the body this year is the proposition to make Greek and elementary mechanics of solids and fluids required subjects in the preliminary examinations. Memorials have also been received by various societies devoted to specialties to make these subjects more prominent in the course of instruction given.

Original Articles.

THE PREVENTION OF THE SPREAD OF TYPHOID FEVER.¹

BY THOMAS H. GAGE, M. D., OF WORCESTER.

MR. PRESIDENT, AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY, — The subject to which I invite your attention this morning is taken from the new and attractive field of preventive medicine. It relates to a disease of almost or quite universal prevalence, and to a feature of that disease which is constant and familiar. What I have the honor to offer for your consideration will be upon the possibility and the practicability of preventing, or at least of diminishing, the spread of typhoid fever, as it occurs among us, by processes of disinfection applied to the intestinal discharges of the typhoid patient.

I do not bring this subject to your notice in the expectation that what I have to offer will possess the merit of novelty, or add much, if anything, to the great mass of knowledge and information upon it which is already accessible to the profession. I have nothing that is new or original to present, and there will be little of originality, I fear, in the presentation of that which is not new. The views to which I call your attention have been for many years before the medical public, and have been supported with great zeal and ability. Some of the most thoughtful and intelligent members of the profession among us have adopted them, and have given to the preventive measures they propose a full and unprejudiced trial. But their adoption has been by no means universal; and I have observed that precisely the class of occurrences they aim to prevent are constantly reported from various parts of the State, without allusion either to the preventive measures suggested or to the vital theory upon which those measures are founded.

I have chosen the subject, therefore, as the theme of my remarks under the influence of a strong impression, derived from all the evidence I have at my command, that the proposed methods of prevention have not yet received among us that general attention and experimental trial to which, by their reasonableness and the great weight of testimony in their favor, they would appear to be entitled. And I will add that I have selected it also out of a confident belief that their universal adoption would not only redound to the honor of the medical profession, but, what is of far greater importance, contribute something of substantial and permanent value to the welfare and happiness of our people. I am aware that great differences of opinion exist upon the questions which will be raised by the topic I have selected. It is a matter upon which observers and students are greatly divided. It would be strange if the views to be presented here did not provoke discussion. I only wish that they might do so. The general effect of such a discussion could not be other than beneficial.

At a recent meeting of the Obstetrical Society of London, Dr. Robert Barnes opened a discussion upon the important practical subject of "the use of forceps and its alternatives in lingering labor" by an address, in which occurred the following passage: "The true function of a society is to gather together and then to diffuse knowledge; to encourage independ-

ent inquiry; to survey from time to time, by the light of mutual reflection, the positions attained; and thus to seek sound guidance in the application of our knowledge to our practical duties." The whole address from which this paragraph is taken is replete with that practical wisdom which comes only from correct observation and great experience. It brought on a debate, which was continued by repeated adjournments through several successive meetings. In it the most eminent obstetricians of the kingdom participated, and upon every phase of the important question reflected the light of individual study and experience. The whole discussion, accurately reported, and presented to the medical public through the appropriate channels, completed a circle of operations which illustrate in typical form the action of a society engaged in the exercise of its "true function to gather together and then to diffuse knowledge."

The subject that I bring to your notice to-day is one of at least equal practical importance with that introduced by Dr. Barnes to the society over which he presided. It is brought before an audience as familiar by long experience with the disease to which it relates as was that audience with the obstetric art. It is as interesting and important to every medical practitioner as that, and it is as important in its relations to humanity as that. I wish it might receive at the hands of the members of this society an equally general and continued discussion.

What I have to say relates to the spreading of typhoid fever *as it occurs among us*.

I do not limit the subject in this way under a belief that this familiar feature of the disease, as we see it, differs in any essential respect from the same thing as observed elsewhere. The laws that determine and govern the spreading of typhoid fever in one part of the world have the same determining and governing influence in any other part. The specific poison by which the disease originates and spreads is the same everywhere, and, without doubt, the media of its transmission are the same everywhere. It is one of its essential characteristics to spread. Wherever it appears it shows an invariable tendency to enlarge the sphere of its operations, and extend beyond the limits of its first invasion.

But it does not show this tendency to the same degree in all parts of the world. It is not manifested here, for example, as it is occasionally in England and on the continent of Europe. We here in Massachusetts have never yet, so far as I know, been visited by any of those wide-spread outbreaks so often described by English and German authors, where hundreds of persons have been almost simultaneously attacked, as in the recently reported disaster at Caterham and Redhill, in England, where, according to the report of the local government health officer, the common water supply of these populous towns became polluted at its source by the excrement of a single typhoid patient. We have never yet experienced anything like the famous epidemic at Over-Darwen, where, as stated in an official report of the same description, within three weeks after the arrival of a lady suffering with typhoid fever, fifteen hundred persons were seized, through the accidental soakage into the common water-pipes of the town of the sewage which contained her intestinal discharges. No village or town of Massachusetts has ever yet, to my knowledge, been overtaken by such a calamity as that which befell, in 1872, the little Swiss village of Lausen, where in a single sum-

¹ Read at the Annual Meeting, June 9, 1880.

mer, out of a population of eight hundred and nineteen persons, one hundred and thirty were attacked, through contamination of the water of the public fountains, by the irrigation of meadows, miles away among the mountains, with the water of a stream that contained the alvine evacuations of a family ill with typhoid fever. The spreading of the disease among us has never attained to such epidemic proportions as these. Our experience has been with more circumscribed and limited forms. It has been chiefly as an endemic, restricted and confined to households and neighborhoods, that it has been familiar to the people of New England. We have seen typhoid fever spread among us in families, from member to member, until several, or all, were prostrated; and we have seen it spread from house to house and family to family, in clustering groups of houses, as in the typical country village. We have seen it spread from point to point, wide distances apart, by means of clearly established personal communication, and we have seen it cling to certain houses or localities, and reappear in or near them year after year.

With the spreading of the disease in all these forms the physicians and the people of Massachusetts, and especially the dwellers in our quiet agricultural towns, have been familiar for many generations. Not a year passes without reports of its occurrence among us. It is mentioned on almost every page of our health reports, where "health of towns" is made from year to year the subject of medical correspondence. It is true that some of these reports are brief and incomplete, and that they suggest rather than describe the momentous events to which they refer. But this would not apply to all. Many of them are given with that degree of fullness and accuracy which make them valuable acquisitions to our statistical knowledge. Some of them are interesting and instructive, not only from the faithfulness of the narrative, but from the importance of the comments which are made upon the event described. And not a few acquire still additional interest from an intelligent and original discussion of the causes of such occurrences and the means by which they may be prevented. No one can refer to these reports without finding much and various information upon the subject to which they relate; and no one can attentively consider them without discovering that many of the reporters have made the events to which they allude the subject of serious thought and study.

I have examined them all with considerable care, and have found among them descriptions, more or less complete, of more than a hundred and forty instances of the spreading of the disease. Of this number about one half have been examples of endemics, confined to households, in which from two to eleven members of a family have suffered. In sixty instances the disease has spread from house to house in circumscribed localities, as in a village, or street, or block of tenements. In at least a dozen well-marked examples, it has returned, year after year, in the same house or locality, sometimes for many successive years. And there is repeated mention of its transmission from the scene of some local outbreak to new fields of operation, at a distance, in the person of an individual who had left the focus of infection after having received the poison, and while the disease was still latent and undeveloped. To the facts and information obtained from these instances I have added such as I have been able to

gather from a considerable number not hitherto reported, and also such as I have derived from a personal observation of my own during a period of twenty-five years. And through the whole experience so gathered there have been constantly forced upon my observation one or two practical points of an interesting nature, to which I wish to call your attention. The observation of them is not new or original with me. Their importance here is in the bearing they appear to have on the ætiology of the events we have been considering.

One of these points is that whenever and wherever among us typhoid fever has spread in any of the forms I have mentioned, it has appeared to spread primarily from a single case. This seems to have been an invariable rule. The disease, as we have seen it, has not stricken down suddenly and all at once all the persons in a house who were to suffer by it, nor has it seized simultaneously upon all the houses in a neighborhood that were to be invaded. Its progress has been gradual; it has first established itself, and then it has spread. I do not know of a recorded instance among us of the spreading of the disease otherwise than from a centre first established by a single case. Another point of apparently equal importance and significance is that usually several weeks elapse after the appearance of the first single case before other members of a family suffer, or before the disease extends to neighboring houses. I have been able to learn in twenty-four instances of spreading among us either the exact order in which the cases have occurred, or to fix the order of their succession with so near an approach to accuracy as to leave no doubt upon my mind as to the actual facts; and I find that in these twenty-four instances there was in one a period of eleven days between the occurrence of the first and second cases, in two a period of thirteen days, in one of seventeen, in ten of twenty-one, in two of twenty-three, in one of twenty-six, in two of twenty-eight, in four of thirty, and in one of forty-five, and that the average period was twenty-three days.

Thus, apparently, according to our experience, there must be not only a first case from which spreading may begin, but there must be also a time after the beginning of the first case and before the beginning of the second for the development of some conditions which are requisite for spreading.

Let me now briefly illustrate by one or two cases. They will make what I have been speaking of clearer in your minds than my description of it has done, and will serve to put in their plainest light the kind of occurrences and the order of events in them which it is our object to prevent. They will to some extent illustrate by suggestion the causes of such events. None of the cases are taken from our health reports.

I.

The scene of the first outbreak to which I ask your attention was an isolated farm-house, two miles out from the city where I reside, on one of the great thoroughfares leading to a neighboring town. The house was situated a little back from the road, on high ground, commanding a delightful prospect in every direction. It was built upon a dry, gravelly knoll, which fell rapidly off on three sides, to north, south, and east, and sloped gradually away on the west to a meadow. The drainage was good and the cellar dry. It was a well-built house, neither new nor old, and had all the

appointments and conveniences which usually surround the house of a prosperous New England farmer. The barn and the barn-yard, the pig-sty, the sink-drain, and the privy held about the same relation to each other and to the house and the well that they hold now, and have held for generations, to many another country farm-house all over the State. Moreover, they held the same relation here that had they held for years. Nothing had been recently changed or disturbed.

Altogether, the scene of the sad occurrence was a comfortable and pleasant establishment, and, if not noticeable for its neatness, by no means conspicuous for the want of it, either within or without. It was the home of the most worthy and intelligent people. The farmer and his wife who made it their residence had lived in it for almost a generation, and had reared in it a large family of promising children. No sickness of a serious nature had ever visited them, and certainly no infectious disease, until the great calamity which makes the subject of this sketch.

At the time of the occurrence the family consisted of the farmer and his wife, both past middle age, three grown-up children (two sons and a daughter), a grandchild, three young men employed upon the farm, a maid-servant, and a colored man, — eleven persons in all.

On the 14th of June, 1871, I was called to this house to see the elder son, ill with typhoid fever. He had been drooping for a week. The case was mild, but well marked, and only noticeable by the fact that diarrhoea was persistent and profuse. He recovered. On the 5th of July, precisely three weeks from the date of my first visit to the elder brother, the younger was taken. His case was severe from first to last, and terminated fatally July 31st. August 8th, just eight weeks from the seizure of her elder brother, and five weeks from that of the younger, the daughter was taken. Her sickness was brief and very violent. She died on the 18th, ten days from the attack. During the month of August the father and the grandchild took it, and both recovered. Later on in October the good wife and mother, worn down with grief and watching, also took it. Her sickness was long and severe, and terminated in death on the 18th of November.

Meantime, while these sad events had been transpiring, and chiefly in the month of July, all three of the young men who had been employed upon the farm were taken, and scattered to their several homes. Two went to different towns in Vermont, and one to his home in this State. All were very sick, and one died. The maid-servant was also taken. She went to her home, many miles away, and was not only very sick herself, but communicated the disease to her family, all of whom suffered by it.

Not a soul escaped of all who were living in the house at the beginning of this dreadful outbreak but the colored man. The epidemic lasted from the middle of June to the middle of November. Out of eleven persons, ten had the disease and four died. It spread not only through the entire family where I first saw it, but through the agency of one of its members it entered and spread again through another, many miles away. It began with a single case, characterized by profuse diarrhoea, and did not spread from that for three weeks.

The intestinal discharges, without disinfection, were thrown into the vault of the common privy, which was attached to the rear part of the house.

II.

A man came from some town in New Hampshire to the village of J., in the summer of 1875, and immediately fell ill with typhoid fever, of which he soon died. He was believed to have been sick with the fever when he arrived. The next year, 1876, the disease broke out in the house next to the one where he died, attacking a mother and daughter, both of whom recovered. It also attacked in the same year two young persons in a family on the opposite side of the road, a little distance away. It appeared again in the village in a single case in 1877. In 1878 it again appeared in the house where, in 1876, it had attacked the mother and daughter. This time it took the husband and father, and he died. The place was then sold, and the next year the new proprietor was taken in the early spring, and also died.

There had been no typhoid fever in the village for many years until the advent of the sick man from New Hampshire, in 1875. It has clung to the locality ever since, and broken out every year in houses all of which were within a stone's-throw of the place where he died, and where his alvine evacuations were cast, without disinfection, into the shallow privy vault upon the surface of the ground.

III.

The following case I have taken from an admirable report of it which appeared in the *Popular Science Monthly* for February, 1879. I have taken it from just without the limits of our State, because the accuracy of the report brings out a point in the ætiology which I have been unable to discover in any recorded instance of a similar occurrence among us.

In the city of S., in the State of New York, in a clustering group of thirteen houses on the outskirts of the town, a case of typhoid fever broke out on the 8th of September, 1876. The next occurred in the second house beyond, on the 4th of October, *twenty six days later*. The disease then spread from house to house, until seven of the thirteen had been invaded, with a total result of seventeen cases and three deaths. The reporter distinctly states that on the 20th of September, after a hot and dry time, a tremendous storm of rain occurred, which filled and overflowed the privy vault, into which the excrementitious matter of the first case was thrown, scattering the material which it contained all over the surface of the ground and into the neighborhood of the well from which all the families that suffered took their drinking-water; and, further, that none of the families in the group who did not use this well suffered.

These are typical examples of the spreading of typhoid fever as it has occurred among us. They illustrate the fact, to which I have alluded, that it spreads from a centre first established by a single case. They illustrate also the fact that the establishment of such a centre requires time. They suggest by implication that it is by means of the intestinal discharges that the infective centre is established.

I turn now to the presentation of a theory that such occurrences may be prevented by disinfection of these discharges, and to a brief consideration of some of the testimony supporting it. This testimony comes to us from various sources, and from authorities who differ somewhat among themselves as to the nature of the disease, and still more as to the nature of the morbid agent by which it is propagated, but not at all upon the importance and value of disinfectant methods.

So far as I know, it is to the late Dr. William Budd, of England, that the medical profession and the public are mainly indebted for the theory of the prevention of the spread of typhoid fever by the disinfection of the intestinal discharges, and for the first practical suggestion of methods by which it may be carried out. The idea was, I think, original with him. It was certainly through his earnest advocacy that it was first brought prominently into public notice, almost twenty-five years ago. His occasional contributions to the medical press upon this and kindred topics have made his name familiar, but he is probably best known among us by his elaborate work upon Typhoid Fever: Its Nature, Mode of Spreading, and Prevention, which was given to the public in 1873.

Dr. Budd's attention was first called to the subject in 1839 by a terrible outbreak of typhoid fever in the little village of North Tawton, Devonshire, where he was then residing, and where, as a young practitioner, he was just beginning his professional life. North Tawton was a country town of only eleven or twelve hundred inhabitants, and its people were mostly engaged in agricultural pursuits. Dr. Budd was born there, and had grown up among the people. He knew them all personally. Moreover, he was, medically, the sole possessor of the field. All the cases of the disease passed under his immediate observation and care. The fever broke out in this secluded place in the second week of July, 1839, and before November eighty of the inhabitants had suffered by it. It furnished a typical illustration of the spreading tendency of the disease. Whole families were, one member after another, prostrated. It passed from house to house, and pervaded the place. Persons taken sick there left for their homes in neighboring towns, and carried the disease with them to new localities.

Opportunity more favorable for the study of such occurrences could not have been presented, and Dr. Budd devoted himself to the task with enthusiasm. He traced the course and relation of events, observed everything in the living and the dead, and kept accurate notes of all. The whole experience evidently made a profound impression upon his mind, and gave a strong direction to his subsequent studies. He passed, with lapse of years, from the little country town to larger spheres of practice and usefulness and to great eminence in the profession, but always maintained to the end of life a continued and increasing interest in the great subject which had so signally attracted his early attention. To use his own expression, he seems to have been from the beginning "possessed with a burning desire to devote the best powers of his mind to a discovery of the means by which such calamities may be prevented."

(To be concluded.)

CAPE COD AS A HEALTH RESORT, AND SOME REMARKS PERTAINING TO SANITARY SCIENCE.

BY PETER PINHO, M. D.

THE inhabitants of cities and towns recognize the importance of a change during the hot season to some salubrious place in the country, where the population is less dense, the air and water uncontaminated, and the opportunities for bathing and recreation are abundant; consequently the subject of health resorts, the

sanitary character of different places, their natural conditions and environments, are becoming matters of much interest.

We are familiar with treatises on health resorts at different and distant places, more especially for the winter season, but I venture to call your attention to conditions and localities within our own commonwealth, offering inducements, during a portion of the year, quite as great, in my opinion, as any other place on this continent.

Cape Cod, where first landed that company of sturdy people who sought freedom and equal rights in the wilderness of America, is by no means the last in importance as a health resort in summer. It is distant from sixty to one hundred and twenty miles southeast from Boston, and extends sixty miles into the Atlantic Ocean, with an average width of a few miles only. From Buzzard's Bay to Chatham, on the south shore of this peninsula, a distance of forty miles in a straight line, but nearly double that if we measure the indentations of harbors and bays, we have natural conditions the most desirable as a sanitary resort during a portion of the year.

The temperature is lower in summer and higher in winter, and less variable than in Boston or elsewhere in New England. This is probably occasioned by its extending further out into the Atlantic Ocean, and feeling a greater influence from the Gulf Stream.

The barometric condition is not very variable, the reading being usually from 29.5° to 30°.

The summers are, as a general rule, exceptionally dry, the showers passing usually to the north or south over the water. Sometimes there is fog, but less than is desirable during the hot season. After continuous sunshine and drought for many days in summer, when the nervous system becomes somewhat irritable and the body surcharged with electricity, the dry sand acting as an insulator, then a foggy day becomes a healing balm, relieving the body and soothing the mind; it softens the skin, improves the complexion, and is hailed with pleasure by ladies as well as gentlemen, notwithstanding its damaging effect upon crimps and starched appendages and ornaments generally.

The prevailing and almost constant wind, in summer, is from the southwest, coming directly from Vineyard Sound, without passing over intervening woods or swamps.

The soil is a light, thin, sandy loam, with a coarse, gravelly sub-soil, absorbing rapidly the rain-fall when it occurs, or any liquid falling upon it; consequently there is no surface moisture, and dry walking is at all times insured except during a rain-storm.

Vegetation, being very scanty, is not sufficient to excite fears of malarial poison from its decomposition.

The bathing is excellent, and on the south shore of the Cape the water is warmer than at most places further south, and no danger need be apprehended from an undertow, as the shallowness of Vineyard Sound gives a warmer temperature, and also prevents the heavy seas found at other places on the coast.

From June until November the climate is as delightful as exists upon the continent, balmy yet invigorating, the nights cool and comfortable, inducing sound and refreshing sleep.

Occasional stormy days are inevitable here as at every other place, when invalids, wherever situated, should be in-doors with an open fire.

The appetite of those coming from inland is greatly

increased, and a vigorous digestion usually waits upon it.

Fish in great variety and of good quality are found in abundance along the shores and in the sound, constituting an excellent, palatable, and healthful diet, and catching them furnishes the most charming and exciting recreation to visitors, male and female.

The inquiry may be made, Do no preventable filth diseases occur in this favored region of which we have been speaking? Such diseases are not wholly unknown, but here, as elsewhere, follow the neglect of well-known health laws.

During my experience of fourteen years, however, in Hyannis, a village in the town of Barnstable, of about two thousand inhabitants, which lies intermediate between Falmouth and Chatham, there have been almost no cases of typhoid fever or dysentery, but few cases of diphtheria, and only occasional cases of measles and scarlatina, all of which have been mild in character, with but few exceptions.

Every case of diphtheria or enteric fever coming under my observation has been traced to a filth origin. The dangerous proximity of the water-closet and stable and leaky drains to the well from which the household is supplied with water, and their position in the direction from which comes the prevailing wind, have been marked and unmistakable in every case, details of which could be given did time permit.

With such a soil, climate, natural drainage, and conditions as have been described, disease should never prevail, and would not if the obvious sanitary requirements were fulfilled.

The defective system of drainage, the bad position and arrangement of hotels at some of the watering-places, if not at all or most of them, often destroy their natural desirable surroundings and influences.

So little attention to sanitary engineering is given to this important matter in the management of hotels that it would be difficult to find one anywhere wholly unobjectionable. It would not be difficult to find many quite objectionable and dangerous.

Serious diseases occurring in families in Boston and elsewhere, after their return from watering-places, the cause of which having been quite clearly traced to filth conditions, teach the lesson that however excellent and desirable the natural position and hygienic influences may be, yet the artificial insalubrity from carelessness and want of attention in the management of slops and sewage and latrines, poisoning the air and water, may render the locality positively dangerous.

The utter indifference of landlords and the apathy of those who patronize many of the summer resorts, with reference to their hygienic conditions, are astounding and alarming. It would be wisdom in the traveling public to require an inspection and favorable report, by a capable sanitarian, before visiting a watering-place, or patronizing a hotel.

For many years it has been my conviction that the water-closet vault and cess-pool should not be permitted where permanent occupancy of premises is contemplated. For ten years at my own residence I have used a water-tight receptacle, with dry earth, which is taken away, emptied, and cleansed every few days, more or less, according to circumstances or the necessities of the case. The slops and night soil are conveyed by a drain and by hand to a well-ventilated cemented stable basement, and mixed with absorbing material, which is frequently removed and utilized.

In 1880, we are all aware how little medicine can do to relieve the results of filth conditions, and how powerless it is to cure them, — conditions which occasion the vast majority of cases of sickness and premature mortality. It is also known how much can be done in the way of prophylaxis to prevent and stamp out these terrible scourges of humanity, namely, diphtheria, scarlatina, erysipelas, enteric and typhus fever, dysentery, cerebro-spinal meningitis, yellow fever, and many other diseases, which are but different forms, under differing circumstances and conditions, essentially of the same nature, and produced by the same or a similar poison, the result of the decomposition of excrementitious and other matter, mixed more or less with malarial poison.

Dr. J. J. Woodward's remarks on the pathological history of yellow fever, in supplement No. 4, National Board of Health Bulletin, though negative in character, are yet significant, and teach that the macroscopical and microscopical appearances in yellow fever are those found in other grave diseases, — diseases differing in some respects, though essentially similar.

The superstition which once regarded the different forms of disease as distinct entities, as plagues coming direct from Pandora's box, the foul legacy of a malevolent Jupiter, and the equally absurd hypothesis that they were unavoidable evils inflicted upon us by Divine Providence, are only just now being displaced by the scientific method of thought, which no longer attributes to supernatural agencies that which is the result of our own disregard of nature's laws.

The public mind is not yet wholly disabused of the pleasing notion that medicine has a plenary power, the swallowing of which makes a vicarious atonement for the neglect of natural laws.

The duty of the profession is obvious and imperative, namely, to teach the public concerning the great danger of neglecting the sanitary requirements, which demand that pure air shall be breathed and pure water drank; that every excretion from the body and all slops and garbage accumulating in and about the household shall daily be removed far beyond the possible contamination of the inmates, or cared for in tight vessels, with the addition of dry earth, until it can be carried away and used as a fertilizer, thus insuring that which lies at the foundation of wealth, patriotism, long life, morality, and happiness, namely, *health*, "without which all taste for pleasure flies."

The city of Utopia, like the cities of heroic times, has no expensive underground sewerage: all night soil, slops, and effete matter are daily removed and utilized; water of entire purity is drank and used for bathing and culinary purposes; cleanliness of the person and dwelling and surroundings is absolute; and temperance in everything is practiced. The architecture is simple and inexpensive, to be purified by burning, every decade or two.

In vain may we build colossal structures and hope for their immortality. Nature is wiser than the architect, and dooms everything to cremation by her own process of decomposition. To the eye of the sanitarian old and venerated buildings are full of decay and danger, and should be permitted to pass into inevitable oblivion.

The city of Boston can scarcely claim to have reached the highest point of sanitation, but the system of sewerage about being inaugurated promises much.

The cause of that terrible scourge which has so re-

cently alarmed the South, and indeed the whole country, need not be sought in a foreign clime.

In referring to the copy of my inspection report to the war department, in 1864, of the yellow-fever epidemic in the cities of Newbern and Beaufort, North Carolina, the filth conditions were so obvious a cause of the dread disease that I was then of the opinion, as I am now, that the disease is endemic in our Southern cities, and preventable in one way only, and that by absolute cleanliness, forsaking, if need be, the sites of cities, the soil of which has become so contaminated that centuries only can render it again habitable. The semi-savage tribes learn from experience the importance of frequent change of the sites of their encampments. He must have been unobservant during the late war, who did not see the necessity of often forsaking the camping-ground of our troops. The twenty-third New York regiment, in General Wadsworth's brigade, on picket duty near Upton's Hill, Va., during the winter of 1861-1862, was kept for months in the same position, covering as small space as possible. In February a fatal typhus or spotted fever showed itself, more than half the command being on the sick list. The filth conditions were most marked, but objections were made to the removal of the regiment for military reasons. The brigade surgeon, however, stoutly and unequivocally stated to the commanding officer the absolute necessity for removal, and that the mortality occasioned by remaining would exceed that which the enemy could possibly inflict. Their removal to a well-arranged camp on new ground was followed by immediate improvement, and from being the sickliest it became the healthiest regiment in the brigade. This is a single instance of hundreds of similar cases in our army.

The careful and thorough examinations that have been and are being made of many of the Southern cities disclose an almost incredible and fearfully dangerous condition. The earth in and around many of the dwellings is honeycombed with old vaults of human excrement, from ten to forty feet in depth, poisoning the air which the people inhale and the water they drink, requiring only a continuous temperature above 80° F. to develop a fatal and devastating plague, whether in the form of cholera, typhus fever, cerebrospinal meningitis, or yellow fever, symptoms peculiar to all of which are more or less manifest during an epidemic, showing blood poison of malignant character, sufficient to account for any grave phenomena.

Vainly may we look for the cause of yellow fever in foreign importation, and rely upon quarantine cordons, the effect of which will only be to embarrass the great interests of commerce. Our eyes should be turned inward; there we may find occasion for the production of the gravest disease and the most fearful mortality.

Germs of disease may doubtless be imported, but if sown among a cleanly people, not subject to the inhalation and imbibition of impurities and poisons in air and water, they will fall on barren ground and find little encouragement to their growth. Better demand almost no quarantine laws, and attend to home sanitation, requiring perfect cleanliness in and about every habitation, and prohibiting the pollution of rivers and water supply of every description. Then little fear need be apprehended of contagious diseases of any kind, and the millennium of sanitation will be approached as nearly as may be.

Cleanliness, absolute cleanliness, not only of our own

person and immediate surroundings, but that of every citizen and every dwelling, and of the ground beneath, especially in crowded places of abode, is the price of health, is the great duty of life.

Legislative bodies of the States and the nation are recognizing this great duty, and have already done much in the right direction. There is yet room for much more to be done.

No one can be indifferent to the welfare of our Southern fellow-citizens, who have in their dire extremity sought aid from the country in their recent deadly infliction of the yellow-fever epidemic. The cause of that disease is now being sought by agents of the United States government, and it is greatly to be desired that the true cause or influences may be found, and the right remedy be applied, be it ever so heroic.

We are hoping and expecting very much from the National Board of Health, the official inspection of which is bringing to light the Augean conditions existing beneath the cities of the South. May their efforts deserve the laurels of Hercules.

RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M. D.

URINARY CHEMISTRY.

UROBILIN.

DR. C. A. MACMUNN¹ does not agree with Maly's assertion that the transformation of bilirubin into urobilin is a process of reduction. His conclusion, derived from the results obtained by the action of various oxidizing agents upon solutions of pure bilirubin, is that urobilin is formed from bilirubin and biliverdin by oxidation. The oxidizing agents employed were nitric acid, hydrochloric acid, air, pure oxygen, and permanganate of potassium. By the action of each of these reagents upon bilirubin, a pigment was obtained, similar in every respect to urobilin. It gave the same absorption band at F., was dissolved by the same reagents, while reagents produced the same changes in the respective spectra of its solutions.

Bilirubin treated with sodium amalgam is converted into urobilin. But the author finds that an aqueous solution of biliverdin, treated with sodic hydrate, gives the same result; and he thinks that the change which takes place in the first case is due to sodic hydrate, and that the process is one of oxidation; since caustic alkalis do exert an oxidizing action on organic substances, especially unstable ones.

Dr. MacMunn thinks it probable that urobilin is formed in the body by the action of the hydrochloric acid of the gastric juice on the bile pigment in the intestines, and not by the action of nascent hydrogen. He does not think it possible that the intestines can contain sufficient hydrogen in the nascent condition to convert bilirubin to urobilin, even allowing that the latter can be produced by reduction; neither is it reasonable to believe that a series of oxidations, which begin with the transformation of bilirubin to biliverdin, should suddenly stop at urobilin, and that the latter should make an exception to the general rule and be formed by reduction.

Accepting his theory, the author finds an explanation of the cause of many cases of jaundice, which are independent of any disease of the liver; since in most cases

¹ The Dublin Journal of Medical Science, June, 1880, page 510.

of jaundice, not due to obstruction, there is found some interference with the normal oxidation, whereby bilirubin is converted to urobilin.

CASTS OF THE URINIFEROUS TUBULES.

Dr. James Tyson, in a paper read before the Philadelphia County Medical Society,¹ describes the various kinds of casts, and states the views of different observers as to their nature and formation, and gives his conclusions in regard to the clinical significance of the different varieties. As a brief *résumé* of the subject, it contains much that is valuable and practical, and is worthy of the attention of the profession.

He makes the following general statements regarding the clinical significance of the different forms of casts.

(1.) Hyaline casts are found in all forms of Bright's disease, as well as in temporary congestions of the kidney, active or passive.

(2.) Epithelial casts are found in acute, subacute, and chronic parenchymatous nephritis. In the latter two forms the cells are generally degenerated and fragmentary.

(3.) Blood casts are found in acute parenchymatous nephritis, and when hæmorrhages have occurred in the kidney.

(4.) Pale granular casts are found in interstitial nephritis and chronic parenchymatous nephritis.

(5.) Dark granular casts are found in parenchymatous nephritis, acute and chronic, and rarely in interstitial nephritis.

(6.) Waxy casts are found only in chronic Bright's disease, and attend either of the three principal forms.

(7.) Oil casts are found in subacute and chronic forms of Bright's disease, and may attend any of the three principal forms, but are most numerous in chronic parenchymatous nephritis (fatty kidney).

(8.) Free fatty cells and free oil drops are found in chronic parenchymatous nephritis.

(9.) The form of fatty cell, known as the compound granular cell, is found in acute and chronic parenchymatous nephritis.

In the diagnosis of renal disease, it is to be understood that the quantity of urine and its chemical characters, as well as the clinical history, are to be considered. Still in many cases a diagnosis can be made from the urine alone.

In speaking of the occurrence of cases of true albuminuria in which casts are absent, Dr. Tyson says: "There are many instances of albuminuria where the absence of casts is reported in which the examination is at fault, being carelessly performed." This statement, unfortunately too true, should be kept in mind in the examination of all urines containing a trace of albumen.²

MELANIN.

Dr. Finkler³ reports two cases of melanuria, in one of which the fresh urine only rarely contained melanogen, but repeatedly contained melanin as such. The color of the urine was at times brownish-black, at times deep black; reaction always weakly acid; sugar and albumen always absent. When the color was brown, nitric or chromic acids gave a deep black, cloudy appearance; if the color was already black, the acids produced no apparent change.

¹ Philadelphia Medical Times, March 13, 1880, page 289.

² A discussion on this paper will be found on page 306 of the journal referred to. — R.R.

³ Med. chir. Rundschau, April, 1880, page 296, from Centr. f. klin. Med.

The urine in the second case was, when first passed, of a yellowish-brown color, and was turned black by nitric acid, thus agreeing with the description of such urines given by other writers. The first case teaches that the urine of persons with melanotic cancer does not always contain melanogen alone, but, even when first passed, may contain melanin, and consequently be of a deep black color.

INDICAN.

Baumann long ago expressed an opinion that indican exists in the urine in the form of a sulpho-acid similar to phenyl-sulphuric acid.⁴ Baumann and Brieger⁵ have proved this to be the case. They gave a dog eighteen grams pure indol over a period of five days. The urine passed was of a reddish-brown color; sulphates very much diminished, finally disappearing; associated sulphuric acid increased; indican very abundant. The sulpho-acid, called by the authors indoxyl-sulphuric acid, was separated in the pure state, and its formula determined. It exists in the urine in combination with potassium, and this potassium compound resembles very much in appearance the potassium compound of phnyol-sulphuric acid. The dry salt when heated in a dry tube is decomposed, with the formation of a purple cloud of indigo, while its solutions are decomposed by hydrochloric acid and weak oxidizing agents, and soon colored blue from the separation of indigo.

SUGAR.

At one of the meetings of the Clinical Society of London,⁶ Dr. Habershen reported a case of chylous urine, in which, after the urine had become clear, sugar appeared. The case is worthy of notice from the fact that, although the amount of sugar was considerable, the specific gravity of the urine did not rise above 1014.

Dr. Heath⁷ also reports a case of diabetes mellitus, in which the specific gravity was invariably as low as 1008-1010. The physician commonly associates sugar in the urine with a high specific gravity, so much so that in the analysis of a specimen of urine with a specific gravity below 1018-1020 the test for sugar is usually forgotten. Cases like the above should therefore be kept in mind.

TOXICOLOGY.

THE ALKALOIDS OF BELLADONNA, DATURA, HYOSCYAMUS, AND DUBOISIA.

Within the past few months, A. Ladenburg and others have published several interesting articles concerning the above alkaloids.⁸ The results of their investigations are best stated in a communication presented by M. Ladenburg to the French Academy.⁹

Atropia belladonna contains at least two alkaloids, heavy and light atropia (so called from their differing specific weight). Heavy atropia is the alkaloid ordinarily known as atropia. Light atropia, which is present in small quantity and is difficult to isolate, is identical with the alkaloid of *Datura*.

⁴ Berichte der deutschen chemischen Gesellschaft, ix., No. 1, page 54.

⁵ Centralblatt für die med. Wissenschaften, 1880, page 230.

⁶ British Medical Journal, February 7, 1880, page 208.

⁷ British Medical Journal, February 21, 1880, page 280.

⁸ Berichte der deutsch. chem. Gesellsch., xiii. pp. 104, 165, 254, 257, 380, 607, 909.

⁹ Comptes rendus, xc. p. 874.

tical with hyoscyamia, since it has the same chemical composition and melting point, and its gold salt is identical with that of hyoscyamia. Belladonnin, considered by Kraut to be present, with atropia, in commercial belladonna, appears to be isomeric with atropia, and may be identical with hyoscyamia.

Datura stramonium also contains two alkaloids, heavy and light datura. Heavy datura is a mixture of atropia and hyoscyamia, since from it the gold salt of both atropia and hyoscyamia can be obtained. Light datura is identical with hyoscyamia.

Hyoscyamus also contains two alkaloids, crystalline and amorphous hyoscyamia. The former is the more abundant, and is the one called by Ladenburg hyoscyamia. This is isomeric with atropia, that is, it has the same chemical composition, and its decomposition products are identical with those of atropia. Moreover, hyoscyamia can be converted into atropia. They are not identical, for hyoscyamia melts at a lower temperature than atropia, and the physical properties of its gold salt differ from those of the gold salt of atropia. The mydriatic action of hyoscyamia is, in general, identical with that of atropia, but in certain cases the former appears to act in a different manner from the latter. Amorphous hyoscyamia contains a hitherto unknown alkaloid, which Ladenburg is still investigating.

From the Australian plant *Duboisia myoporoides* Ladenburg has extracted only one alkaloid, duboisia, the identity of which with hyoscyamia he has demonstrated beyond a doubt. They have the same chemical composition and the same properties, and their gold salts are identical.

The interesting results of these investigations are, then, the following:—

There are only two strong mydriatic alkaloids occurring in nature, atropia and hyoscyamia. These are isomeric, and resemble each other in a marked degree.

Duboisia and datura are each identical with hyoscyamia, and therefore isomeric with atropia. It is probable that hyoscyamia or the light datura of commerce can render the same service as duboisia in the treatment of diseases of the eye.

ANTAGONISM OF POISONS.

The conclusions of Dr. Falck¹ concerning this subject are of interest in view of the many erroneous impressions which exist. He has shown that for no pair of poisons yet investigated does a mutual physiological antagonism exist. On the other hand, there are numerous instances of one-sided antagonism. The best known is in the case of muscarin, the alkaloid of poisonous mushrooms, and atropia. The latter is a true physiological antidote for the former. Their physiological antagonism has been exactly investigated in the case of most of the organs of the body. Myosis, salivation, vomiting, diarrhoea, changes of pulse and respiration, which are caused by muscarin, are removed or prevented by atropia, if the latter is applied simultaneously. Muscarin and atropia act upon the same organs, the former having an excitant, the latter a paralyzing, action; but while the latter can arrest the action of the former, the reverse has not been found true. A similar one-sided physiological antagonism exists between pilocarpin and atropia.

Physostigmin is an antidote to atropia, chloral hy-

drate to strychnia, atropia to both chloral hydrate and morphia, but all in a pharmacological, not in a physiological, sense. One will diminish the symptoms produced by the other, but does not act upon the same organs in a physiologically opposite manner.

In cases of poisoning by strychnia, chloral is undoubtedly the best antidote that can be employed, while atropia is to be looked upon as of great value in cases of poisoning by morphia.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

MEDICAL CASES IN THE SERVICE OF DR. S. G. WEBBER.

REPORTED BY S. E. WYMAN.

THICKENING OF MEMBRANES SIMULATING TUMOR; SYPHILIS.

CASE I. October 23d. E. F. D. S., twenty-four years. Family history good. Patient has used liquor very moderately during his life. Says he had a chancre with non-suppurating buboes one year and a half ago. Had severe sore throat and a general skin eruption subsequently, but dates not fixed.

His sister says that three years ago he had very severe headache, lasting about a month, and then he had relief for about six months, when headache returned for two months. The last attack of headache dates back to June 1, 1879, lasting two months. Since that time he has been comparatively free from pain. Eyesight began to fail when the last attack of headache ceased.

About three weeks previous to entrance he began to lose the use of his left arm and leg. No sudden attack nor loss of consciousness. No abnormal sensation or pain in leg or arm; no tremor or spasm in arm or leg; no trouble in deglutition; some interference with speech. Gaping and sighing are more frequent than formerly; no pain in body or back; tongue is protruded straight; slight paralysis in the left side of the face; ptosis on the right; paralysis of internal rectus, and imperfect action of superior and inferior recti muscles of both eyes. There is a lack of coördination of the hands; the left moves more tremulously than the right. Walks very feebly, and with eyes shut; would fall if not supported. Both legs decidedly weak. Feels two points in right hand at three fourths inch, and in left hand at one inch, apart, but distances are not constant. Pupils widely dilated; vision rather imperfect. Intellect decidedly dull. Heart and lungs normal. Remains of syphilitic eruption visible on legs and thighs. Five grains of iodide of potassium three times a day. Inunction of five grains of oleate of mercury daily in axillæ.

October 26th, P. M. Has been very restless, and slept poorly. Has made several unsuccessful attempts to empty bowels. Enema of olive oil and turpentine.

Above prescription was followed by a very large defecation, consisting of masses of hardened feces. Patient fell into a quiet sleep.

October 27th. Appetite very voracious; apparently not satisfied, although he eats very heartily. The iodide of potassium was increased gradually to thirty

¹ Archiv der Pharm., May, 1880, page 388.

grains three times a day until October 31st. A slight conjunctivitis lead to its omission. Eyes examined by Dr. Williams, and nothing abnormal was found in either fundus.

November 1st. Motions of left eye are somewhat better than at time of entrance.

November 2d. Twenty grains of iodide of potassium three times a day. Shouting, noisy, and requiring to be tied in order to keep him in bed.

November 6th. Teeth somewhat tender. Use inunction once a day only. Increase iodide of potassium to twenty-five grains.

November 7th. Tongue a little swollen. Omit inunction.

November 10th. Slight conjunctivitis. Omit iodide of potassium. Has been growing more stupid for the past three or four days; can be aroused this A. M. with difficulty. Speech very indistinct. Swallowing is quite difficult, and liquids regurgitate through the nose at times. He became unconscious, gradually failed, and died at 6.30 P. M., November 15th.

Patient required, until within a few days, chloral and bromide of potassium in large doses nearly every night in order to sleep; otherwise he would continually get out of bed, and talk nearly all the time.

November 16th. *Autopsy* by Dr. E. G. Cutler, twenty-eight hours after death.

Brain. On removing the calvaria the dura mater was found to be normally thick, and the vessel normally full. The pia mater was thickened over the vertex, and also at the base, especially over the third nerves and those given off from the anterior portion of the pons; the thickening was most marked on the right side. The right third nerve was grayer and more translucent than normal. The same change, but less marked, was seen in the left third nerve. The arteries at the base of the brain, that is, a portion of the basilar, each middle cerebral, and one vertebral, showed rather circumscribed thickening of the intima. The brain was intensely injected in all parts. In the anterior portion of the right optic thalamus there was a limited amount of capillary hæmorrhage. The *lungs* were rich in blood, and there were numerous hæmorrhages into the alveoli. The left lung contained one or two hæmorrhagic infarctions. Low down were places where the bronchial tubes were considerably injected. The *heart* was normal. The *spleen* was covered with old inflammatory thickenings; it was extensively adherent to the neighboring organs, was quite rich in blood, and there were some small ecchymoses in the pulp.

The statement made by patient that he had chancre only a year and a half previous to his entrance to the hospital is open to doubt, in view of his sister's statement that he had headache three years ago. The patient was probably mistaken, his memory being affected by the disease. In view of the paralysis of the right third nerve, the left facial, and the greater disturbance of the left limbs, and the general weakness of both sides, a local lesion, situated near the median line, but rather more to the right, either in the right crus cerebri or between the two crura, was diagnosed. Taking into account the preceding headaches and the specific history, the diagnosis of a tumor was made. The principal lesion was situated at the point indicated, but there was great thickening of the membranes instead of the more limited tumor which it was supposed caused the symptoms.

APHASIA, WITHOUT PARALYSIS; LESION OF LEFT ISLAND OF REIL.

CASE II. E. W. C., female, aged fifty-nine years.

November 12th was brought into the hospital with the following history: One year and a half ago had an attack of paralysis, from which she completely recovered. One week ago was attacked suddenly with difficulty of speech, but with no loss of power. When first seen she was lying on her back, with her eyes rolled upwards and forehead knit as if in pain. Speech was very indistinct and unintelligible. Could move all four limbs; pronate, supinate, and extend fingers of both hands equally well. Grasp of right hand judged to be somewhat less strong than that of left. Put out her tongue when told to, and without any deviation. Swallowed fairly well. Could sit up and help herself. Heart and lungs normal.

November 13th. Slept pretty well during the latter part of the night; considerable difficulty in swallowing. Lay with head and both eyes turned toward the right. Made no attempt to talk or protrude her tongue, but moved her left arm slightly when told to do so. Used right hand quite well. Much mucus in her mouth, causing loud râles during respiration. Some groaning. Conjunctivitis of left eye. Eyes moved slightly, but not beyond the median line, keeping continuously to the right of it. Reflex action retained in the feet. Temperature 97.4° F.; pulse 85.

November 14th. Involuntary passage of feces and urine during the night.

November 17th. Gradually failed, respirations becoming more and more rapid, and died at 2.45 P. M.

November 18th. *Autopsy* by Dr. E. G. Cutler, twenty hours after death. *Brain.* The vessels were tolerably well filled. There was atrophy of the convolutions of the convexity. Compensation by subarachnoid fluid. Old hæmorrhagic effusion in the left occipital lobe. The left Island of Reil was much softened, apparently from embolic plugging of a vessel. One or two hæmorrhages of small size were found in the substance of the motor convolutions on the left, particularly the third frontal convolution on the left near the fissure of Rolando. All the cerebral arteries were extremely changed, from atheromatous degeneration. *Heart.* The left ventricle was slightly hypertrophied. The valves were normal and sufficient. The substance of the heart was normally firm, and of good color. There was atheroma of the aorta and of the coronary arteries. The *lungs* were somewhat injected, and there were evidences of old inflammatory trouble at both apices. The *spleen* was dense and small from atrophy of the pulp, but otherwise not abnormal. *Kidneys.* Both together weighed five and three quarters ounces. The cortex of each was extremely atrophied, as was also the medulla. The amount of secreting substance was reduced to a minimum. The arteries were thickened. The *liver* was rather atrophied, and in various places its capsule was drawn in by cicatrices. The *uterus* contained evidences of former pregnancies, and there were several fibrous tumors in its wall.

The first attack was doubtless caused by the hæmorrhage into the occipital lobe. The eyes and head were turned towards the right, yet the lesion was found in the left hemisphere: this is the reverse of what is usually found in conjugate deviation of the eyes and head. Perhaps the lesions of the motor convolutions on the left were sources of irritation leading to spasm of the

muscles of the right, and so caused the eyes and head to turn in that direction. The case is further of interest in view of the difficulty of speech without paralysis and with lesion of the left Island of Reil.

The accompanying chart of temperature is characteristic as showing the steady rise of temperature, indicating the approach of a fatal termination.

LARGE CEREBRAL TUMOR, WITH FEW SYMPTOMS TILL SHORTLY BEFORE DEATH.

CASE III. R. W. R., male, aged thirty-five, single. Entered the City Hospital November 16, 1879, but was not able to give any history. The following was subsequently learned from his father: His mother died of consumption; the rest of family history excellent. He has been a hard drinker and a wild young man, but no specific history could be obtained. Patient was always very pale, but well until twelve to fourteen years ago, when he received a blow in the back of the head from a brick which was thrown at him. He has had more or less headache since injury. Has been a great smoker for years. About four years ago vision began to fail, and he has become totally blind in the left eye and very nearly so in the right. Six to eight weeks ago he had an attack similar to present one, in which he had very severe headache and was unconscious for half a day. Has never had any convulsions nor loss of motor power.

On the 13th of November he began to have severe headache, but kept about his work until the noon of November 15th, when he went to bed, became unconscious during the succeeding night, and has remained so ever since. Patient is very anæmic; lies with his eyes closed, and will not answer any questions; is conscious of pinching, and moves all four limbs in response to the irritation. Pupils of nearly normal size, and respond, though somewhat sluggishly, to light. No cicatrix on tongue. Temperature 98.6° F.; pulse 64.

November 17th. Answers questions this morning, and says he feels better. Tongue protruded straight. Was restless during the night, and was constantly throwing off the bedclothes. Passed urine in bed. Heart and lungs normal.

Ry Iodide of potassium grs. v.
Three times a day.

Soon became unconscious, and would not answer questions.

November 18th. Was quiet during the night; talked some. Involuntary passage of urine in bed, which continued until death.

November 19th. Was very noisy during the first part of the night, throwing off bedclothes, etc. Is able to drink milk without much difficulty.

November 22d. Talked a great deal during the night, and slept but little. Has more difficulty in swallowing.

November 23d. Had a comfortable night. Says he feels better, and has his eyes open.

November 25th. Has been unconscious for past forty-eight hours, and has great difficulty in swallowing anything, liquids regurgitating.

November 26th. Grew weaker, and died at twelve M.

November 28th. Autopsy by Dr. E. G. Cutler, forty-eight hours after death. The heart was rather small, and its color pale. There was a slight atheromatous condition of the anterior portion of the mitral valve. The aortic valves were sufficient. Lungs. Evidences

of old inflammatory trouble were found at the apex of the left lung, and there was cedema of the posterior portions of both. The bronchial tubes contained more or less bloody fluid. The spleen was somewhat small. Its capsule was slightly wrinkled, and there were numerous adhesions. On section it was pale, and the pulp was slightly atrophied. The liver was rather small. Its surface was smooth; the capsule was not thickened. On section the organ was cyanotic, but otherwise not abnormal. The stomach was normal. The kidneys were very full of blood, otherwise not abnormal. Brain. At the base of the brain, in the median line, extending from just in front of the pons to just a little beyond the fissure of Sylvius, was a tumor about two and a half inches long by two inches broad, and of an irregular, lobulated surface. There was a certain amount of softening in the brain over the surface of the tumor, and a puriform fluid escaped in removing the brain. On section, the tumor had a fleshy appearance, and minute blood-vessels were freely scattered over the entire surface of the section. The tumor was estimated to be about the size of the fist. There was a considerable amount of fluid in the lateral ventricles, and the convolutions were flattened over both convexities; otherwise the brain was not abnormal. The bones at the base of the brain, that is, the base and portions of the lesser wings of the sphenoid, were considerably roughened and carious over the situation of the tumor. The cribriform plate was apparently ulcerated through.

The patient's condition when received was such that an examination gave no satisfactory data, and the earlier history was so imperfect that no diagnosis was made. The headache at intervals was not of itself alone sufficient to justify the diagnosis of tumor, especially in view of the statement that there was no loss of motor power. Especially deserving of notice is the fact that, notwithstanding the large tumor within the skull, the patient was able to keep about his work until eleven days before his death.

FISTULA IN ANO.

THE RESULTS OF INCISION IN THIRTY-SIX CASES, WITH ANATOMICAL REMARKS.

BY DUDLEY P. ALLEN, M. D.,

Surgical House Pupit Massachusetts General Hospital.

THE cutting operation for the cure of fistula in ano has been criticised as inefficient and dangerous: inefficient because it not infrequently fails to induce a cure of the fistula, and dangerous because by cutting the fibres of the sphincter ani muscle incontinence of feces results.

The treatment of fistula has largely been given over to irregular practitioners, who resort to ligature, stimulating injections and applications, methods of treatment which are neither more safe nor efficient than cutting, while they entail greater delay and expense upon the patient. The appended table shows the results that have been obtained in thirty-six cases of fistula in ano, most of which were patients in the Massachusetts General Hospital:—

From five months to three years have elapsed since the operations were performed, so that there has been abundant time for the ultimate results to show themselves. Most of the cases have been personally exam-

ined within the last few weeks or communicated with by letter.

The operation was performed by cutting the tissues included between the fistula and the rectum. An analysis of the table shows the following: Of thirty-six

THIRTY-SIX CASES OF FISTULA IN ANO.

Number.	Healed.	Not Healed.	Time required to Heal.	Impaired Sphincter.	Incontinence.	Unimpaired Sphincter.	Remarks.
1	Yes.	-	9 w.	-	-	Yes.	Very slight loss of power in sphincter.
2	Yes.	-	7 w.	Yes.	-	-	
3	Yes.	-	6 w.	-	-	Yes.	
4	Yes.	-	8 w.	-	-	Yes.	
5	Yes.	-	1 w.	-	-	Yes.	
6	-	Yes.	-	-	-	Yes.	
7	Yes.	-	2 w.	-	-	Yes.	
8	Yes.	-	4 mo.	-	-	Yes.	
9	Yes.	-	6 w.	-	-	Yes.	
10	Yes.	-	?	-	-	Yes.	
11	Yes.	-	3 mo.	-	-	Yes.	Slight mucous discharge.
12	Yes.	-	10 d.	-	-	Yes.	
13	Yes.	-	5 w.	-	-	Yes.	
14	Yes.	-	1 mo.	-	-	Yes.	
15	-	Yes.	-	-	-	Yes.	
16	Yes.	-	4 mo.	-	-	Yes.	
17	Yes.	-	7 w.	-	-	Yes.	
18	Yes.	-	4 mo.	-	-	Yes.	
19	Yes.	-	2 mo.	-	-	Yes.	
20	Yes.	-	1 mo.	-	-	Yes.	
21	Yes.	-	4 mo.	-	-	Yes.	Slight incontinence in diarrhoea for one year.
22	Yes.	-	6 w.	-	-	Yes.	
23	-	Yes.	-	-	-	Yes.	
24	Yes.	-	3 w.	-	-	Yes.	
25	-	Yes.	-	-	-	Yes.	
26	Yes.	-	2 w.	Yes.	-	-	
27	-	Yes.	-	-	-	Yes.	
28	Yes.	-	9 w.	Yes.	-	-	
29	Yes.	-	1 mo.	-	-	Yes.	
30	-	Yes.	-	Yes.	-	-	
31	Yes.	-	8 w.	-	-	Yes.	Amount of incontinence could not be ascertained.
32	Yes.	-	10 w.	-	-	?	
33	Yes.	-	11 mo.	-	-	Yes.	
34	Yes.	-	8 mo.	-	-	Yes.	
35	Yes.	-	?	-	-	Yes.	
36	Yes.	-	1 yr.	-	-	Yes.	
36	30	6	-	4	1	31	

cases operated upon by cutting thirty were entirely cured. The time required varied from one week to one year. The average time was eight weeks, while if three especially tedious cases be omitted, which occupied in healing eight, eleven, and twelve months, respectively, the average time would be only five and a half weeks. Six have not entirely healed, but two of these were operated upon only five months ago, and have very little discharge except when the patient is overheated, and these will probably heal. There is perfect control of sphincter in all except five cases, and these five, with one exception, are of those which have entirely healed. The six which have not healed, with one exception, retain control over their sphincter. Of the five which have impaired power in sphincter, four have no trouble except in diarrhoea, and then, though there is not incontinence, the patient cannot retain discharges as long as before operation, and must make haste to defecate.

One case reports slight incontinence, but to what extent we have been unable to ascertain. The cases would seem to show, then, that the cutting operation is not a dangerous one, and that in a large proportion of cases it results in cure.

In several cases, after all purulent discharge had ceased, there was an occasional mucous discharge, when the patient was overheated. Examination shows this to come from the line of the wound, which, after cicatrization, sometimes leaves a slight linear depression,

which for a short time is subject to irritation. After a time the irritation and discharge usually cease.

The rapidity and certainty of healing are of course dependent upon the general health of the patient.

The method of performing the operation may be described in brief: A small probe is inserted into the fistula, while the forefinger of the opposite hand is placed in the bowel. By carefully following the course of the fistula an internal opening into the bowel may be found in a very large majority of cases. This opening should be sought for just above the sphincter, and a report of seventy post-mortem examinations of fistulae showed the opening in no case to be more than five to six lines from the margin of the anus. Having found the internal opening with a probe, the inner end of the probe is bent out of the anus, and the tissues which it includes between the outer and inner openings of the fistula are divided upon a director. It is also important to stretch the sphincter in order to paralyze it during the process of healing. An internal opening may be accompanied by multiple external openings, in which case all the fistulous tracts are freely laid open. A method of treatment which has proved very successful in the hospital is to scrape away thoroughly all the inner surface of the fistula with a curette, and when the tracts extend some distance outward from the anus after being curetted they have been stitched together, and thus long tracts have been united by first intention.

Cases are not always, however, so simple, for the fistulous tract may extend to a considerable distance upward. Quain, in his *Diseases of the Rectum*, says that when the fistula is more than one inch in length it is usually between the muscular and mucous coats. These tracts reaching upward beside the bowel may and usually have no internal opening high up, but communicate with the rectum at the same point as those which are wholly superficial.

To operate upon these by an extended incision of the mucous membrane would incur two dangers: first, the cut would include the whole of the sphincter muscle, and render the danger of incontinence far greater than in the superficial cases, where a few fibres remain uncut; and, second, since the parts about the rectum are very vascular, it is at times extremely difficult to control hæmorrhage when it is beyond the reach of ligature. Cases of deep cutting have been followed by copious and almost fatal hæmorrhage. In those cases where the fistula extends a considerable distance beside the bowel, if there be an internal opening low down this may be laid open, as in cases where there is no deep tract, and then the deep tract is best treated by curetting, injections, packing with stimulating applications, etc. After operation the parts are kept thoroughly cleansed, and the usual packing is charpie moistened with tincture of myrrh one part to water eight parts. The packing should be sufficient only to separate the parts, and cause them to heal from the bottom, and not to distend them, and thus prevent cicatrization. The patient is kept in bed with bowels quiet for from eight to ten days, but the fistula is dressed until healed.

In connection with the treatment of fistula in ano, it may be of interest to consider its cause. This will best be done by a careful examination of the parts involved. Omitting all unessential details, we will describe two causes of fistula which become apparent on a study of the rectum. They are, first, the existence of the diverticula of Morgagni, and, second, the internal hæmorrhoidal veins.

In the *Wiener medizinische Presse*, 1878, Chiari says that, having made an examination of a large number of rectums, he finds that the diverticula of Morgagni collect and retain fecal matters; that they thus become distended, and later ulcerate, in this way forming fistulæ.

On examining the rectum it will be found that on a level with the upper border of the sphincter is a portion of glistening smooth membrane, one fourth of an inch in width, differing in appearance from the integument below and the mucous membrane above. This is supposed to represent the point where, in foetal development, the depression from without meets the descending pouch of the large intestine from within. As the diaphragm which divides the two disappears and retracts, there are left small cicatricial bands, longitudinal and extending upward, and between these bands are found slight pockets or depressions. The appearance might be likened to a bag with a string tied about its mouth. The bag is then thrown into folds on its internal surface, and between these are depressions. If now between two of these folds were stretched a covering, a pocket would be formed just above the string which tied the bag. In the rectum the sphincter may be likened to a cord tied about the rectum. The longitudinal bands are caused by the drawing outward of the diaphragm which in the foetal state divides the rectum, and the external depression which comes to meet it. Not only are longitudinal bands the result, but they are also connected for a short distance at their lower extremity, thus forming pockets. If the normal rectum is examined these little pockets will be found surrounding it just above the sphincter, and varying from one thirty-second to one fourth of an inch in depth.

To find if these tended to collect fecal matter, at the suggestion of Dr. J. Collins Warren, several normal rectums were injected with plaster of Paris. The casts showed that several pockets in each rectum were largely distended, and projections were found on the casts of varying thickness, and from one sixteenth to one eighth of an inch in length.

What more natural cause could there be for the explanation of the formation of fistulæ? We have the rectum, which is an elastic, distensible sack, closed at its extremity by the sphincter, which acts as a cord to close it. The fecal matter fills, and if retained distends, the rectum. Portions of fecal matter enter the small diverticula and enlarge them, and becoming fixed cause ulceration, which increases until fistulæ are begun, which proceed outward and later break externally. That this is a reasonable explanation is attested by the fact, first, that these diverticula of Morgagni are found in various stages of ulceration, even to the formation of complete fistulæ; and, second, because these diverticula are at the precise point where the internal openings of fistulæ are almost universally found, as is attested by the seventy-five post-mortem examinations cited by Ashton, where in no case was the opening more than five to six lines distant from the margin of the anus.

A second source of fistulæ mentioned was the internal hæmorrhoidal veins. These are far better marked in some cases than in others, and may be found surrounding the rectum just above the sphincter. They form nodules, varying in size from a pin's head to that of a small pea.

An article in the *Archives générales de Médecine*, December 1, 1879, by M. Duret, says that the internal

hæmorrhoidal veins end in small pouches during the foetal state; that later they become connected with the external hæmorrhoidal veins by small canals of communication which penetrate the external sphincter muscle. By contraction of the sphincter the lower openings of these veins, or small distended sacks, are closed. By the forcing downward of the fecal matters, in ineffectual efforts at defæcation, the escape of blood upwards is prevented, and these veins are thus dilated, and later pushed downward, forming hæmorrhoids.

Microscopical section of these dilated veins shows them to be filled with blood, which appears to be partially fluid, and in some partially organized. It also shows that the tissues separating them from the rectum are in some cases very thin. The veins also extend upward for from three to four inches between the mucous membrane and muscular coat of the intestine. Now it is a known fact that internal hæmorrhoids ulcerate. It is stated by Quain that fistulæ more than one inch in length are usually between the mucous and muscular coats of the intestine. These long fistulæ also often connect with the intestine at its lower extremity. The facts in the case would therefore justify the conclusion that internal hæmorrhoids ulcerate; that the ulceration, instituting a phlebitis, proceeds upward along the vein, by the side of the intestine, at the same time that it burrows toward the surface. If the anatomical distribution of veins, as given by M. Duret, is correct, it would not be illogical to suppose that the suppuration or phlebitis followed downward or outward through the small vein which penetrates the sphincter muscle and connects the internal with the external hæmorrhoidal veins, and that it thus reaches the surface of the body.

This following of the veins would possibly explain the multiple sinuses which at times radiate from one internal opening, and also the lining membrane of the fistulous tracts which at times is epithelial.

We shall attempt no consideration of the varieties of fistula, as internal, external, etc., nor of the causes commonly cited, as abscesses external to the rectum, the lodging of pieces of fish-bone, etc., but simply insist upon the fact that an anatomical consideration of the rectum shows the *diverticula* of Morgagni and the *internal hæmorrhoidal veins* to be obvious and adequate sources of fistulæ.

Why these causes do not give every one fistulæ may be accounted for by the same reason that the New England climate does not give every one phthisis.

We would also repeat that the operation for cutting, from the cases already cited, appears to be an easy method of treatment, speedy of cure in most cases, and almost devoid of unpleasant consequences to the patient.

— Medical journalism in France seems to be in as bad a way as it is in this country, if we may judge from the comments of a foreign exchange, which states that Bourdeaux has just established its third medical journal; Toulouse and Rheims have each two; Montpellier three, Lille two, and Lyons, Limoges, Nantes, Nice, Marseilles, Caen, Tours, Nancy, and Rouen have each one. There are also two in Algeria. Besides these there are in several departments medical societies which publish their proceedings at monthly or longer intervals, and then the various mineral-water stations have their medical "journals" while the season lasts.

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"MEDICAL EDUCATION: THE NORTHWEST STILL IN THE LEAD."

THE above is the somewhat sensational title of an editorial in the July number of the *Chicago Journal and Examiner*, which states that—

"While the medical department of Harvard has been simply giving notice of an intention to add a *fourth year* to the period of medical study at a future time, which, however, was to be optional with the student whether he should take it or not, the new St. Paul Medical College, medical department of Hamline University, boldly announces its adoption of a full graded course extending over *four years*, a full compliance with which is made obligatory upon all candidates for graduation. We quote from the annual announcement for 1880-81 as follows: 'Instruction is given by lectures, recitations, and clinical teaching, distributed throughout the academic year, which commences on the first Tuesday in October and closes on the last Saturday in May, with a recess of ten days at Christmas. The course of study has been enlarged and extends over *four years*, and the examinations for a degree are divided into *four*, one to be held at the close of each year. All examinations, both in the regular and adjunct branches, must be passed at some time previous to receiving the diploma. An examination, on entrance, in the higher English branches is required.' Will the medical press of the whole country take as much pains to notice the bold and positive stand taken by the young school in Minnesota as it has the simple declaration on the part of Harvard of an intention to do something in the future?"

We would add for the information of our contemporary that Harvard has already adopted a fourth year optional course, instruction in which will be given during the coming year. We regret not to be able to say that the course is a required one, for a large number of students have already signified their intention to take it, and we feel sure that a bolder move, like that of the Minnesota school, would have been attended with success.

—The *Medical Times and Gazette* of June 19th reports the removal of a scrotal tumor in Calcutta from a Hindu. The patient weighed 276 lbs. before the operation. The tumor after removal weighed 110½ lbs., or, making allowance for the contents of the hydrocele, at least one half of the man's original weight. The growth commenced shortly after puberty. Its size made it useful as a writing-desk for the patient.

15

SANITARY LEGISLATION AND PROGRESS IN JAPAN.

THE Japanese Central Sanitary Bureau began its existence in the year 1873, but the present report,¹ covering the two years from July 10, 1875, to June 30, 1877, is the first which has been published. The first task undertaken by the bureau after its organization was the preparation of a preliminary sanitary code. In this code provision was made for the establishment of local sanitary offices, for the regulation of the course of study to be followed in medical schools, for the examination of applicants for permits to practice as physicians and surgeons, for the examination of applicants for licenses as apothecaries; and special rules were laid down for the sale and handling of poisonous and powerful medicines. The provisions of this code not only covered all the points over which government control is exercised in Europe and America, but in some respects, and especially in those relating to the practice of medicine, go much beyond anything which has been attempted in this country. It was wisely decided to enforce immediately only such measures as were applicable to the large cities and such others as were urgently needed, but that the code in general should be applied to the whole country only as its advancing civilization and circumstances should permit or render desirable. At an early period a proclamation was issued, ordering that all patent medicines and secret remedies should be chemically examined and their sale controlled by the bureau, and shortly afterward a government laboratory was founded in Tokio, and a central office was established for collecting, keeping, and distributing pure and effective vaccine lymph. Gradually arrangements were made to control the adulteration of drugs, preliminary steps were taken to obtain statistics of mortality and of infectious diseases, to prevent such diseases, and a system for the inspection of public prostitutes was introduced. Each advance was made only after mature consideration, in order to follow such an intermediate course as to coincide with the gradual progress of medical science in Japan and the general condition of the cities and prefectures, so that many of the regulations were carried into effect, not in their proper sequence, but as circumstances would permit. When one looks still further into their report, and learns from Section VII. that in June, 1877, the total number of physicians returned as practicing in Japan, one prefecture not returning, was 31,268, or one to every 1100 of the population, of whom about sixty-six per cent. followed the Chinese system, thirteen per cent. the mixed system, and that of the remaining twenty-one per cent. who followed the "Western" system less than one per cent. were duly qualified by examination, the difficulty of the task undertaken by the Central Sanitary Bureau is apparent. The statistics in regard to apothecaries only make this difficulty more clear. The total number of apothecaries, according to the returns up to June, 1877, was 5993, or

¹ Annual Reports of the Central Sanitary Bureau of the Home Department of the Imperial Japanese Government. Report of the Director of the Central Sanitary Bureau on Choleraic Diseases in Japan during the Year 1877.

one for every 6000 of the population. Of this number 16 followed the Japanese system, 632 the Chinese, 35 the "Western," and 5288 a mixed system; 22 only had been licensed after examination. In some families the business is hereditary.

The mortality returns as given in Section I. of the report are, as yet, too incomplete to be of much positive value. Tables giving the statistics in regard to infectious and contagious diseases are contained in Section II. The utmost superstition still prevails respecting the proper means of guarding against them, and the lower classes still believe enchantment, or supplications to the gods, to be the only efficacious remedies; those sick with such diseases are strictly isolated, but no attention is paid to cleanliness, to the disinfection or destruction of infected bedding, clothing, furniture, etc. The ravages of small-pox have been at times very extensive. Vaccination was first introduced by a Dutch physician at Nagasaki in 1849, but the results of the early efforts were not very satisfactory, owing probably to the careless manner of performing the operation and the poor and insufficient supply of lymph. Hospitals in Japan differ from similar institutions in America and Europe, as is explained in Section IV., in affording medical treatment and attendance chiefly to the higher classes; formerly this was exclusively the case, but even since the establishment of hospitals by the government, the greater skill and reputation of the physicians and surgeons attached to them attract the rich rather than the poor. The total number of hospitals in 1877, including branch hospitals, those for the treatment of syphilitics and charity hospitals, was one hundred and fifty-nine. Of the general hospitals sixty-four were public, seven were government institutions, and thirty-five were private.

It is now the law in Japan that any person wishing to prepare any patent medicine should apply to the department of education for a license, presenting a sample of such medicine, with the names and proportions of its ingredients, directions for its use, and explanations of its supposed efficacy. These licenses are only good for five years. The report ingenuously remarks in this connection that—

The nature of these patent medicines is different from that of those which are sold in Europe and America.

In Western countries, this class of medicines is intended to cure only one particular disease or disorders of a simple nature; but in Japan, one and the same patent medicine is vaunted to be an infallible remedy for a large variety of diseases of a wholly different description.

Special measures are therefore necessary for the control of the sale of such medicines as these, as present circumstances do not permit us entirely to prohibit their preparation and sale.

For this reason special regulations, with penalties for their violation, have been issued.

As far as this country is concerned, we are afraid the compliment to our good sense is undeserved, and the difference, if there is any, is probably in favor of the Japanese. We wish our national and state govern-

ments had a little more of their courage and enterprise in seeking to control humbugs and charlatanism.

The report on choleraic diseases gives a short history of cholera in Japan, and an account of the epidemic which prevailed very extensively toward the close of the year 1877. The first Japanese record of Asiatic cholera in an epidemic form dates back to the year 1822, when it is thought the disease was probably brought over from Java to Nagasaki in some Dutch ships. The next serious outbreak was in 1858, and continued for nearly three years. This time it was believed that the first case, which appeared again at Nagasaki, was brought by the United States man-of-war *Mississippi*. In 1877 the first cases were observed at Kanagawa, and the infection was thought to have been brought from Amoy. This epidemic carried off seventy-eight hundred victims.

These reports are in English, and were printed in Tokio. The errors are very few and unimportant. The good sense, extensive study, and intelligent conclusions which they offer would be creditable to any health bureau in any part of the world, and they could hardly be more presentable if published in one of the "Western" countries. Japan is evidently getting past the stage where she need come to learn, and in some particulars pertaining to sanitary matters she may presently "give us points." The director of the central bureau is to be congratulated upon this first report, which it is to be hoped will now be annually followed by others.

BATHING IN FRESH POND.

In view of the recent decision of Judge Ladd, of the Cambridge police court, under which an individual was fined last week for bathing in Fresh Pond, from which pond the city of Cambridge draws its domestic water supply, it seems worth while to call attention to Chapter 224 of the Acts and Resolves passed by the General Court of Massachusetts in the year 1879. This chapter is entitled *An Act to Preserve the Purity*¹ of the Water Supply of Towns and Cities.

Section I. of this act imposes a penalty for rendering impure water used for domestic water supply, and authorizes constables to arrest offenders without a warrant; Section II. confers upon agents of water boards the powers usually exercised by constables; whilst Section III., to which the term "rider" seems very appropriate, reads as follows: None of the provisions of this act shall be so construed as to interfere with the sewage of towns, cities, or public institutions, or to prevent boating on or bathing or fishing in such water, or the enriching of land by the owner or occupant thereof for agricultural purposes.

In support of his decision, Judge Ladd quotes Chapter 18, Section II., of the General Statutes, according to which "every municipal corporation may make such necessary orders and by-laws, not repugnant to the laws of the State, for directing and managing its prudential affairs." We fear Judge Ladd's decision will be found repugnant to Section III. of Chapter

¹ Italics are ours.

224, above quoted, to a no less degree than that section is repugnant to common sense and common decency. If the committee on public health of the legislature of 1879 gave its indorsement to this Section III., as we think it must have done, it is charitable to suppose that the meaning of the section was overlooked; if, on the other hand, the act originated in the committee, the concoction of the title of the act, and the composition of Section III. must have afforded the overworked members of that committee a few moments of cheerful and refreshing hilarity. It is evidently proper that the town of Natick should discharge its sewage into Lake Cochituate, and then bathe in it, and if the inhabitants of the city of Boston don't like to drink the water thus flavored, perhaps the shoemakers of Natick will permit themselves to be furnished with bath-tubs, when the inhabitants of Boston will only have water plus sewage to drink.

We sincerely hope the interpretation we put upon this Section III. may prove erroneous, and that Judge Ladd's law may be found as good as his equity.

MEDICAL NOTES.

— Dr. G. A. Moses gives the following account of obstetric practices among the Indians in the *St. Louis Courier of Medicine*: An Indian woman, of the Kiowa tribe, one of the wildest tribes, which has come scarcely at all in contact with the whites, had been in labor for three days, and it being apparent to the friends and midwife squaw that successful natural delivery was impossible, and that under the native treatment by incantations, beating of tom-toms, etc., the woman's strength was becoming rapidly exhausted, assistance of the post medical officer was desired. It was only after several visits to the wigwam that the doctor finally was allowed to make a very hasty and imperfect digital touch. The head was arrested in the cavity. After still further delay he was permitted to apply the forceps, which, to the intense amazement of the lookers-on, drew forth a living infant. As soon as this was effected the physician was rudely pushed aside, and the Indian midwife took charge of her case, compelling the woman to rise to her feet. She was sustained in a bent posture, grasping with both hands the centre pole of the tent; then the squaw proceeded to carry out methodically Credé's method of expressing the placenta by compressing the uterus through the abdominal walls, with both hands pressing in the direction of the pelvic cavity, until the placenta appeared at the vulva, when it was seized with one hand and withdrawn; the patient was then allowed to resume recumbency, and a highly ornamented buckskin bandage was adapted to pelvis and abdomen; this was drawn snugly by buckles and straps. The doctor says it looked as though it had been in use some time, and was a most perfect-fitting bandage. The patient made a good recovery, and the white man's "iron hooks" are established in reputation among the band.

If the Indian mother gives birth to twins, only one

is allowed to live. In case of the birth being male and female, the latter is given to an old squaw, and nothing further is heard of the luckless papoose. In case of both being of the same sex, the feeblest is put out of the way.

— In regard to copper-test pellets for sugar, Dr. F. W. Pavy writes to the *Lancet*: When kept under suitable conditions they fulfill all that can be desired. I have received information from some who have procured them that they have become moist, and thereby spoilt on keeping. Hitherto they have been sent out in corked bottles rendered air-tight with sealing-wax. As long as the bottle has remained unopened they have been all right, but when the sealing-wax has been broken the cork has allowed the penetration of moisture, which, being absorbed by the caustic potash contained in the pellet, has led to its becoming moist. All that is wanted to prevent this occurrence is that they should be kept for use in a good stoppered bottle.

NEW YORK.

— During the week ending July 17th the special corps of physicians appointed for the tenement districts of the city visited 7386 houses, including 41,995 families, and found 1271 children whose parents had neglected to provide them with medical attendance. They gave 1053 prescriptions and distributed 1471 free excursion tickets.

During the six months ending June 30th, 4179 deaths of children under one year were reported, and of that number, 958 were less than a month old. Four hundred and seventy-seven of the deaths occurred in January, 466 in February, 536 in March, 523 in April, 685 in May, and 1512 in June. Of children under five years of age, 2760 died in the first three months of the year, and 4195 in the second quarter; making a total of 6955. During the same six months, two deaths from small-pox, 113 from scarlatina, 116 from diphtheria, 176 from croup, and 106 from malarial fever were reported at the bureau of vital statistics. Of 140 deaths directly attributable to habits of intemperance, 63 occurred among the native population, 41 among the Irish, and 21 among the German residents.

Owing to the great heat and the unusual amount of illness in the tenement-house districts, the number of poor sick children taken to the sea-side sanitarium at Rockaway is greater this season than ever before; as many as four hundred patients sometimes being received at the institution in a day.

— So far as can be made out, Dr. Tanner actually seems to be honestly carrying out his proposed plan of refraining from food for forty days, and, if the honesty of purpose is a fact, is certainly succeeding in his attempt to an extent that would seem almost incredible, according to the opinions previously entertained by the medical profession in regard to the powers of endurance of the human system. As previously remarked, however, we have no positive guaranty that no deception has been practiced in the matter; and the strongest point against Dr. Tanner's trustworthiness is the fact that he refused to under-

take his experiment under the auspices of a body of reliable regular physicians, such as the New York Neurological Society. Dr. Landon C. Gray, of Brooklyn, the acting president of the latter society, has published a card in the daily press, in which he explains the position of the society in regard to the matter. "Some time ago," he says, "it was understood that Dr. Tanner was desirous of placing himself in the hands of a committee to be appointed by the Neurological Society. Upon this committee were to be put, among others, the leading physiologists of New York, if they would consent to serve,—men in whom the world, regardless of schools, would place entire confidence; and the conditions of the experiment were to be so rigid as to preclude all doubt as to the result. In this way it was hoped that if Dr. Tanner could really fast for forty days, the phenomena of his fast would be thoroughly studied, and whatever scientific importance they might possess would be accurately determined. The plan was abandoned, because it was soon understood that Dr. Tanner objected to the conditions as being too strict. Learning from the papers some time afterwards that Dr. Tanner had had a misunderstanding about the matter with a prominent member of the society, I wrote him, offering to call a special meeting and endeavor to have a committee appointed. In a courteous reply he informed me that his arrangements were made at Clarendon Hall, and could not be altered, but that he would be glad to have a committee coöperate with the medical gentlemen already in charge. To this I answered that it would be impossible to get members of the Neurological Society to act conjointly with gentlemen who did not belong to the regular profession. Moreover, such a loose watch as was maintained at Clarendon Hall would satisfy no one and conduce to nothing. Dr. Tanner is a man of sufficient intelligence to understand that in order to prove that he alone, among the many millions of countless ages, can fast forty days he must subject himself to an examination as rigid and careful as human ingenuity can make it. Even then there will be skeptics. If he is not willing to subject himself to such a test, it is illogical on his part to complain of the doubt expressed by scientific men. Any person well versed in sleight of hand could feed himself easily, or be fed with ease, as the watch is now being conducted. I do not mean to express any opinion whatever as to Dr. Tanner's uprightness, for that would be unwarrantable; but the gentleman must remember that, hard as it may seem, a necessary assumption at the outset of his self-imposed test is that he will cheat at every turn."

It is true that since Dr. Tanner's attempt was commenced a number of regular physicians, on their own responsibility, have undertaken to "keep an eye" on him, but hitherto the watch has been conducted in such a careless manner that no result of the slightest value to science is likely to be derived from the experiment. In the mean while there is no direct evidence to show that he has partaken of food, although it would at least have been comparatively easy for him to have used some such article as coca, for in-

stance, to sustain his strength. At first he took little or no water, but of late has been drinking it pretty freely. At one period this, or something else, caused a most marked increase in his weight, which certainly is a remarkable phenomenon in the case of an individual in the midst of a fast of forty days. On July 8th, the tenth day of the attempt, he weighed one hundred and thirty-nine and one half pounds, having lost eighteen pounds since he had commenced it. By the 10th of July he had lost twenty-one and a quarter pounds, and by the 12th, the fourteenth day, twenty-four and a half pounds. On the sixteenth day he was exceedingly nervous, and one of the regular physicians who was watching him made the following note on the record of the fast: "Since I last saw him the doctor has failed rapidly, and is now quite weak, and unwilling to sit up any great length of time." In the evening, however, he took his accustomed drive through Central Park, and while out drank six ounces of water. When he retired for the night his pulse was 98, temperature 98° F., and respiration 18. His weight was then one hundred and thirty-two pounds, a loss of twenty-five and one half pounds since the beginning. During the following afternoon and evening he drank forty-four ounces of water, and after his return from his usual evening drive he was found to weigh one hundred and thirty-three and one half pounds, a gain of a pound and a half since the previous night, while his whole condition had considerably improved. He continued to drink freely of water, and by the end of the eighteenth day he actually weighed one hundred and thirty-nine pounds, only eighteen and a half pounds less than at the beginning, the marked increase in weight being attributed to the absorption of water by the tissues of the body. At the end of twenty days of his fast, however, his weight had become reduced to one hundred and thirty-five and one half pounds, notwithstanding that he had continued his water drinking as before. On the twenty-second day his weight was one hundred and thirty-four pounds, but he was for the most part cheerful and talkative, and in conversation said that all the pain or inconvenience which he had suffered in the earlier part of his fast was now gone, so that he did not even feel a craving for food. By the twenty-fourth day, however, his weight had become reduced to one hundred and thirty-two pounds, a point as low as that which he reached just before commencing the free use of water, and he showed unmistakable signs of increasing weakness.

— Dr. Vandever Newton, proprietor of the *Druggist's Circular and Chemical Gazette*, which was established by him in 1857, in the interests of druggists and chemists, has just died, at the age of seventy-seven years, from disease of the heart.

— The case of *Jackson vs. Odell*, which has recently been decided in the court of common pleas, establishes a precedent which ought to be of substantial service to many abused tenants in this city. It was stated that Dr. Odell hired a house of Mr. Jackson, and afterward found that a soil-pipe had broken in the cellar, that a quantity of foul matter from the

broken pipe had accumulated in a hole in the cellar bottom, and that from this matter poisonous emanations arose and spread through the house. It was further alleged that the landlord refused to make the necessary repairs when his attention was called to the condition of the sewerage, whereupon the tenant abandoned the premises two months before the expiration of his lease. The landlord sued for rent for these two months, but the jury, after considering the testimony, not only disallowed the landlord's claim, but found damages against him to the extent of fifty dollars, besides costs.

Miscellany.

LETTER FROM PORTLAND.

ANNUAL MEETING OF THE MAINE MEDICAL ASSOCIATION.

THE twenty-eighth annual meeting of the Maine Medical Association was held in this city on the 15th, 16th, and 17th of June, and was very numerously attended. Dr. S. C. Gordon, the president, occupied the chair during all the sessions, and discharged the duties of the office with great skill and to the satisfaction of all concerned. In his inaugural address, he called the attention of the association to various matters which have engaged its attention in previous years, such as the proposed laws for a state board of health, for the protection of the profession from malicious suits for malpractice, and the like, but advised that, at the next meeting of the legislature, the other bills which the society has endeavored to have enacted should be temporarily ignored, and that all efforts should be concentrated upon the passage of an effective anatomical bill. At the present time it is impossible to procure a subject for dissection by any lawful means. The physicians of Maine must either break a statute themselves or hire some other persons to do so for them, if they would have material for the study of practical anatomy. As the law stands, a medical man may have in his possession for scientific purposes a body which he has obtained by any lawful means; that is to say, he may dissect the corpse of a person who has bequeathed his remains to him, or the body of any one dying in a prison or jail, provided the criminal has not requested to have his carcass interred, and provided also that no friend claims it within twenty-four hours after death. It is very rare that a man wills his body into the dissecting-room, even those who have suffered most for want of material shrinking from doing the one thing which, more than any other, would tend to encourage a healthier public sentiment in this important particular; and the portion of the law which relates to defunct convicts has been of absolutely no service to the profession. This, however, is not because there is no mortality in our penal institutions, but because, when one of their inmates seems near his end, some pseudo-philanthropist conveys to him the pleasing information that if he does not request to be buried the doctors will cut him up. It is needless to say that this announcement invariably develops so strenuous a petition for quarters in the cemetery that the medical schools are cheated out of their rightful material. Even in the case of one of the

vilest wretches who ever paid on the scaffold the penalty of his hideous crimes, a fiend who combined burglary, rape, and murder in one offense, a sickly sentimentality, which would have shrunk from contact with him living and at liberty, stepped in to save him dead in a dungeon, and to defraud earnest searchers after knowledge of the human frame. But in spite of all these obstacles cadavera are had; and once in a while a quiet country community is shocked and startled by the discovery of the resurrecting exploits of some medical student, who has been careless with his tongue or clumsy with his shovel, and whose anatomical enthusiasm must, for the future, find vent in fresh tombs and graveyards new. The association felt the force of its president's suggestion, and appointed a committee which will cooperate with one from each of the medical schools, and try to persuade the next legislature so to alter the statute that the abundant material for anatomical purposes may be utilized, and the cemeteries protected from the ghoully desecration to which they have formerly been subjected.

A goodly number of essays and reports of cases were presented, as follows: Small Things to be observed in the Lying-In Chamber, by Dr. T. A. Foster, of Portland; Otitis Media Non-Suppurativa Chronica, by Dr. E. E. Holt, of Portland; Uterine Fibroids, by Dr. E. H. Hill, of Lewiston; The Pathology of Phthisis, by Dr. I. T. Dana, of Portland; New Remedies, by Dr. A. J. Fuller, of Bath; Asylum Needs, by Dr. G. W. Foster, of Bangor; Injuries of the Eye, by Dr. J. A. Spalding, of Portland; Progressive Locomotor Ataxia, by Dr. A. L. Hersey, of Oxford; Resection of the Elbow, by Dr. E. F. Sanger, of Bangor; Results of Operations for Malignant Disease at the Maine General Hospital, by Dr. C. O. Hunt, of Portland; Amputation at the Ankle-joint, by Dr. C. W. Bray, of Portland. These papers, as a rule, were worthy of the close attention which they received from the society, and I would like to present an abstract of each; but although space forbids that, it will not be improper briefly to allude to two which excited a great deal of interest. A whole evening was devoted to Dr. Dana's presentation of his views on the pathology of pulmonary tuberculosis and the succeeding discussion. The subject was handled in the broad and masterly manner which characterizes all the productions of the essayist, and if any of his auditors had previously entertained any doubts as to the competency of the professor of pathology and practice in the Medical School of Maine they would certainly have been reassured on hearing this graceful and scholarly production. Dr. Foster, of Bangor, who has given especial attention to mental disease, made an admirable statement of some of the most prominent needs of hospitals for the insane, and discussed very ably the vexed question of mechanical restraint. At his suggestion the society appointed a committee to visit and report on the management of the Maine Insane Hospital, at Augusta, in the hope and expectation that, by such means, a more intelligent interest in insanity may be awakened in the profession, and more rapid progress made in its prevention and cure.

The annual oration was pronounced by Dr. O. A. Horr, of Lewiston, who treated of the relations of the medical profession to progress in the State. Especial stress was laid upon the necessity of a state board of health, which, alas, we seem very unlikely to get for many years to come. Even the ravages of epidemics

do not disturb the apathy of our people. Diphtheria and scarlet fever have been frightfully prevalent and extremely fatal in many regions, but from none of them has gone up an appeal for a board which could do anything to arrest the diseases and prevent future damage from them. The association, however, is not disheartened, and may yet be able to engineer a bill through the legislature, though, if it ever succeeds, it will be in spite of the opposition of the yeomanry, and not because of their assistance.

The Medical School of Maine and the Portland School for Medical Instruction were reported by the official visitors to be in prosperous condition and doing excellent work. The class in the former was the largest for many years, and the course of instruction eminently satisfactory. The Portland School is doing a great deal of thorough work in a very unobtrusive way. It has for some time required some familiarity with Latin and physics of all applicants for admission. Naturally this keeps down the number of its students, but quality rather than quantity is believed by the instructors to be what is needed in the medical profession to-day, and they have no ambition to have a share in authorizing incompetents to take charge of the lives and health of the people. At the entrance examination in June, two thirds of the candidates were rejected.

The feature of this year's meeting which distinguished it from all its predecessors was the public dinner, which was had at the Falmouth Hotel, on Wednesday evening. The affair was a marked success, both as regards the substantial and elegant repast and the subsequent interchange of sentiment. Dr. Packard, of Bath, acted very acceptably as anniversary chairman, and Dr. Pendleton, of Portland, officiated gracefully as toast-master. The occasion was enlivened by the presence of representative men from the different professions and various institutions, the mayor of the city, and delegates from other medical societies. Among the last were four present or past presidents of state medical associations, namely, those of Massachusetts, Connecticut, Minnesota, and Colorado. This year each member who attended the dinner bought his own ticket; next year the association will pay the whole bill.

The principal officers for the ensuing year are as follows: president, Dr. W. W. Greene, of Portland; secretary, Dr. C. O. Hunt, of Portland; treasurer, Dr. A. S. Thayer, of Portland; chairman of the board of censors, Dr. O. A. Horr, of Lewiston. The next meeting will be held on the third Tuesday in June, 1881.

The one unpleasant feature of the meeting arose from the fact that last year the board of censors reported unfavorably on a certain application for membership. The members who recommended the applicant felt aggrieved at the refusal of the censors to give the reasons for their unfavorable report, and took occasion roundly to berate them at this meeting. A prolonged discussion, in which the rejected applicant was allowed to participate, followed, in the course of which the fact was developed that the censors agreed not to divulge their reasons in this case, because some of the testimony was given in confidence, and they felt that if they were to disclose the source whence their information was derived, their successors would be unable to obtain unfavorable statements concerning any applicant, however unsuitable for membership.

The society voted that it would uphold its censors in keeping inviolate all communications made in confidence, and passed a resolution of approval of the action of its former board. GAMMA.

CASE OF SUDDEN AND TRANSIENT SWELLING OF BOTH LIPS AND TONGUE.

ON the evening of the 26th of June, Mrs. S. came rushing into my office with her infant son, aged ten months, who presented a hideous and ridiculous appearance: both lips, enormously enlarged, standing out stiffly, and the swollen tongue projecting almost motionless between them. The lips were not tender and pressure did not cause pitting, and there was only a trifling degree of redness of the integument. The infant did not exhibit any signs of pain. A large quantity of saliva was continually overflowing. The preponderating symptom was the immense swelling. The mother positively stated that no injury had occurred, and that the whole condition as above described had occurred in a period of half an hour before calling at my office. The child was unable to grasp the nipple or swallow from a teaspoon.

I have only to add that the swelling soon after began to subside, and in less than twelve hours the enormous distention was all gone, and the parts restored to their natural position, size, and shape. No treatment was pursued except the application of very weak lead water, to satisfy the mother. A. I. LAWBAUGH, M. D.

PHOENIX, MICHIGAN.

BRITISH MEDICAL ASSOCIATION.

FORTY-EIGHTH ANNUAL MEETING.

THE forty-eighth annual meeting of the British Medical Association will be held at Cambridge, on Tuesday, Wednesday, Thursday, and Friday, August 10, 11, 12, and 13, 1880. President, Denis C. O'Connor, A. B., M. D., Professor of Medicine in Queen's College, Cork. President elect, G. M. Humphry, M. D., F. R. C. S., F. R. S., Professor of Anatomy in the University of Cambridge, Senior Surgeon to Addenbrooke's Hospital. An Address in Medicine will be delivered by J. B. Bradbury, M. D., F. R. C. P., Physician to Addenbrooke's Hospital, Linacre Lecturer in Physic. An Address in Surgery will be delivered by Timothy Holmes, M. A., F. R. C. S., Surgeon to St. George's Hospital. An Address in Physiology will be delivered by Michael Foster, M. D., Hon. M. A., F. R. S., Prælector in Physiology in Trinity College, Cambridge.

The business of the association will be transacted in eight sections: Section A, Medicine. President, George Edward Paget, M. D., D. C. L., F. R. S., Cambridge. Section B, Surgery. President, William S. Savory, M. B., F. R. S., London. Section C, Obstetric Medicine. President, W. S. Playfair, M. D., London. Section D, Public Medicine. President, Henry W. Acland, M. D., LL. D., F. R. S., Oxford. Section E, Psychology. President, J. Crichton Browne, M. D., LL. D., F. R. S., London. Section F, Physiology. President, William Rutherford, M. D., F. R. S., Edinburgh. Section G, Pathology. President, Sir James Paget, Bart., D. C. L., LL. D., F. R. S. Section H, Ophthalmology. President, William Bowman, F. R. C. S., F. R. S., London. A subsection of Otolaryngology will be formed, of which Mr. W. B. Dalby, F. R. C. S., of London, will be chairman, and Dr. James Patterson Cassells, of Newton Terrace, Sauchiehall Street, Glasgow, honorary secretary.

Tuesday, August 10, 1880. Two P. M., Meeting of Committee of Council at the Guildhall. 2.30 P. M., Meeting of the Council of 1879-80 at the Guildhall. Four P. M., short service, with sermon by the Bishop of Ely, in King's College Chapel. Eight P. M., General Meeting in the Senate House. President's Address; Annual Report of Council and other business. Ten P. M., tea and coffee in the Hall of Caius College (close to the Senate House).

Wednesday, August 11th. 9.30 A. M., Meeting of Council of 1880-81 at the Guildhall. Eleven A. M., Second General Meeting in the Senate House. Address in Medicine. 12.30 P. M.,

Conferring Honorary Degrees in the Senate House. Two to five P. M., Sectional Meetings in the New Museums and Lecture Rooms. Nine P. M., Soirée in the Fitzwilliam Museum and grounds of Peterhouse by the Reception Committee.

Thursday, August 12th. 9.30 P. M., Meeting of the Committee of Council at the Guildhall. Ten A. M., Third General Meeting in the Senate House. Reports of Committees. Eleven A. M., Address in Surgery in the Senate House. Two to five P. M., Sectional Meetings in the New Museums and Lecture Rooms. 6.30 P. M., Public Dinner in the Hall of Trinity College.

Friday, August 13th. Ten A. M., Address in Physiology in the Senate House. Eleven A. M., Sectional Meetings in the New Museums and Lecture Rooms. 1.30 P. M., Concluding General Meeting in the Senate House. Reports of Committees and other business. Four P. M., Garden party in the grounds of King's College by the President. Nine P. M., Conversazione in St. John's College and grounds. Ladies will be admitted to the soirée, garden party, and conversazione.

The following subjects have been arranged for discussion in the various sections: (1.) Medicine. On Hysterical Anæsthesia, opened by Dr. Bristowe; and on Asthma, introduced by Dr. Andrew Clark. (2.) Surgery. On the Treatment of Wounds, by Professor Lister; and on Stricture of the Urethra, by Sir Henry Thompson. (3.) Obstetric Medicine. On Uterine Hæmorrhages, by Dr. Atthill; and on the Removal of Uterine Tumors by Abdominal Section, by Mr. Spencer Wells. (4.) Public Medicine. On the General Working of the Public Health Administration in Great Britain and Ireland, opened by Dr. Alfred Carpenter and Dr. Francis T. Bond; and on Diseases communicable to Man from Diseased Animals when used as Food, by Mr. Francis Vacher and Mr. Edmund J. Syson. (5.) Psychology. On the Influence of Alcohol on the Causation of Insanity. (6.) Physiology. The Evidence derived

from Clinical Observations and Physiological Experiments as to the Seat of the Formation of Urea in the Body, by Professor Gamgee, F. R. S.; and on Sleep and Hypnotism, by Professor W. Preyer, of Jena. (7.) Pathology. The Influence of Injuries and Morbid Conditions of the Nervous System on Nutrition, by Mr. Jonathan Hutchinson; and on Micro-Organisms, their Relation to Disease, opened by Professor Lister. (8.) Ophthalmology. Some Points relating to the Perception of Colors, by Professor Donders; and the Nature of Glaucoma. Subsection of Otology. The following questions will be discussed, namely: The Therapeutic Value of Electricity in Ear-Diseases; and the Comparative Value of the Various Mechanical Aids to Hearing, with special regard to the several kinds of Artificial Drumheads, and to those Instruments which assist Deafness by conducting or transmitting Sound, either directly or indirectly, to the Organ of Hearing.

Annual Museums. The Pathological Collection will be in the Anatomical Museum. Honorary Secretary to the Pathological Collection, C. Creighton, M. D., Anatomical Museum, Cambridge. The exhibition of surgical instruments, microscopes, pharmaceutical preparations, dietetics, and sanitary appliances will be in connection with the reception room in the Guildhall. Honorary Secretary, G. Wallis, Esq., Corpus Buildings, Cambridge. Honorary Secretary to the Sanitary Collection, W. Armistead, M. B., Station Road, Cambridge.

Excursions. On Saturday, August 14th, there will be excursions to Ely, Peterborough, and Audley End. Honorary Secretary to the Excursion Committee, G. Wallis, Esq., Corpus Buildings, Cambridge.

Annual Dinner. The number of persons that can be accommodated in the hall of Trinity College is limited to three hundred and fifty. Tickets for the annual dinner will be reserved for members who make application, accompanied by payment of one guinea.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 23, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	813	489	43.29	36.53	5.90	2.95	.36
Philadelphia.....	901,380	490	236	37.34	31.22	2.85	.81	3.87
Brooklyn.....	564,400	327	208	49.54	43.42	3.36	1.22	.03
Chicago.....	—	375	254	43.57	32.53	3.20	5.33	.53
St. Louis.....	—	190	108	32.10	22.63	1.57	.52	1.04
Baltimore.....	393,796	231	120	42.87	30.73	1.73	2.07	3.03
Boston.....	365,000	163	80	36.19	26.99	3.68	6.74	1.22
Cincinnati.....	280,000	154	79	27.27	21.42	7.14	1.94	.65
New Orleans.....	210,000	100	43	22.00	4.00	2.00	3.00	1.00
District of Columbia.....	170,000	91	53	27.47	24.17	2.19	—	—
Buffalo.....	—	68	41	41.16	36.75	1.47	2.94	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	153,883	80	42	41.25	16.25	6.25	8.75	6.25
Milwaukee.....	127,000	64	42	37.50	31.25	1.56	8.12	—
Providence.....	102,000	54	34	44.44	27.77	—	1.85	—
New Haven.....	60,000	35	17	25.71	17.77	—	—	—
Charleston.....	57,000	42	28	14.28	4.76	9.52	—	1.38
Nashville.....	37,000	34	17	32.35	14.70	2.94	—	5.88
Lowell.....	54,000	41	27	43.90	36.58	7.31	2.43	—
Worcester.....	53,000	29	18	51.74	48.27	6.89	—	—
Cambridge.....	50,400	24	14	41.66	33.33	—	8.33	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	23	15	21.73	17.39	8.69	—	—
Lynn.....	34,000	11	6	36.36	18.18	9.09	—	—
Springfield.....	31,800	22	14	59.09	54.54	—	—	—
New Bedford.....	27,200	12	5	41.66	25.00	8.33	8.33	—
Salem.....	26,500	15	10	33.33	33.33	13.33	—	—
Somerville.....	23,500	12	8	58.33	50.00	—	—	8.33
Chelsea.....	21,000	4	4	50.00	—	—	50.00	—
Taunton.....	20,200	9	7	66.66	66.66	—	—	—
Holyoke.....	18,400	14	4	57.14	42.85	—	—	7.14
Gloucester.....	17,300	4	3	25.00	—	—	—	25.00
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	10	4	50.00	40.00	—	—	—
Newburyport.....	13,500	4	1	25.00	25.00	—	—	—
Fitchburg.....	12,600	5	4	60.00	20.00	20.00	20.00	20.00
Twenty Massachusetts towns.....	159,510	63	31	46.03	34.92	4.76	4.76	3.17

Deaths reported, 3613; 2066 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1441, diarrhoeal diseases 1126, consumption 334, lung diseases 140, diphtheria and croup 97, typhoid fever 52, malarial fevers 42, scarlet fever 37, whooping-cough 33, measles 29, cerebro-spinal meningitis 16, erysipelas six, small-pox two, typhus fever one. From *malarial fevers*, New York nine, Brooklyn eight, St. Louis seven, New Orleans six, Baltimore four, Philadelphia two, Chicago, District of Columbia, Milwaukee, New Haven, Charleston, and New Bedford one each. From *scarlet fever*, Chicago eight, Baltimore seven, Providence five, New York, Philadelphia, St. Louis, New Orleans, Pittsburgh, three each, Buffalo and Milwaukee one each. From *whooping-cough*, Brooklyn five, New York, St. Louis, Nashville, four each, Baltimore three, Cincinnati, District of Columbia, Pittsburgh, Charleston, two each, Philadelphia, Chicago, Boston, New Orleans, Providence, one each. From *measles*, New York, Chicago, New Orleans, four each, Cincinnati, Pittsburgh, three each, Brooklyn, Baltimore, Lowell, two each, Boston, Lawrence, Springfield, Haverhill, Chicopee, one each. From *cerebro-spinal meningitis*, New York five, Chicago four, Lynn two, St. Louis, Providence, New Haven, Holyoke, Clinton, one each. From *erysipelas*, New York three, Providence, New Haven, Worcester, one each. From *small-pox*, Chicago two. From *typhus fever*, Philadelphia one.

Sixteen cases of diphtheria, one of small-pox, two of measles, 14 of scarlet fever, six of whooping-cough, three of typhoid fever, were reported in Brooklyn; no cases of small-pox in Chicago; 22 of diphtheria and five of scarlet fever in Boston; six of diphtheria in Milwaukee; four of diphtheria, five of measles, four of scarlet fever, one each of cerebro-spinal meningitis and whooping-cough, 15 of diarrhoeal diseases, in Providence.

Total number of deaths slightly increased; deaths under five stationary; deaths from diarrhoeal diseases somewhat dimin-

ished. Deaths under five diminished in New York, Brooklyn, and Philadelphia; increased in Chicago. No yellow fever reported.

In 35 cities and towns of Massachusetts, with an estimated population of 931,560 (population of the State about 1,690,000), the total death-rate for the week was 23.89 against 20.86 and 23.98 for the previous two weeks.

For the week ending June 26th, in 149 German cities and towns, with an estimated population of 7,699,115, the death-rate was 29.3. Deaths reported, 5505; 2569 under five: pulmonary consumption 452, acute diseases of the respiratory organs 312, diphtheria and croup 105, scarlet fever 85, measles and *röttheln* 73, typhoid fever 50, whooping-cough 43, puerperal fever 19, typhus fever (Königsberg, Danzig, Elbing two, Thorn, Berlin, Dortmund three) nine, small-pox (Posen) one. The death-rates ranged from 13.8 in Darmstadt to 51 in Berlin; Königsberg 36.3; Breslau 31.5; Munich 32.7; Dresden 27; Leipzig 23.4; Hamburg 23.9; Hanover 15.3; Bremen 24.3; Cologne 26.1; Frankfurt 20.3; Strasburg 27.2. For the same week, Vienna 23.2; Paris 25.2.

For the week ending July 3d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 18.9. Deaths reported, 2722: acute diseases of the respiratory organs 177, diarrhoea 134, whooping-cough 102, scarlet fever 98, measles 73, fever 43, diphtheria 13, small-pox (all in London) 13. The death-rates ranged from 12 in Portsmouth to 30 in Oldham; London 18.5; Bristol 17; Birmingham 18; Manchester 19. In Edinburgh 22, Glasgow 20, Dublin 34.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 20 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 19, typhoid fever four, diphtheria and croup two, whooping-cough one. Death-rate of Geneva 17.7; of Zurich 24.7; Basle 16.3; Bern 22.1.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
July 11	30.004	69	80	66	66	44	79	63	NE	SE	Calm.	13	8	0	F	F	C	—	—
" 12	30.096	69	77	62	69	66	61	65	NE	E	S	8	7	6	O	F	O	.04	.04
" 13	29.805	68	79	61	95	80	89	88	S	N	Calm.	10	22	0	E	O	C	12.50	1.49
" 14	29.985	65	73	59	82	51	64	65	NE	SE	S	6	8	4	O	O	C	.40	—
" 15	29.876	68	73	60	74	95	90	86	S	Calm.	SW	1	0	1	O	R	O	5.10	.30
" 16	29.692	70	81	63	100	90	86	92	Calm.	E	S	0	7	8	G	O	F	2.40	.84
" 17	29.778	74	84	66	90	42	68	66	W	W	SW	6	14	3	F	C	F	—	—
Week.	29.891	70	84	59				77										20.44	2.67

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 17, 1880, TO JULY 23, 1880.

GREENLEAF, C. R., major and surgeon. Granted leave of absence for four months. S. O. 158, A. G. O., July 20, 1880.

MOSELEY, E. B., captain and assistant surgeon. Granted leave of absence for twenty days. S. O. 66, Department of the Platte, July 17, 1880.

PRICE, C. E., captain and assistant surgeon. Granted leave of absence for two months, with permission to apply for two months' extension. S. O. 154, A. G. O., July 15, 1880.

GIBSON, R. J., first lieutenant and assistant surgeon. Having reported at these head-quarters, ordered to report to the commanding officer, Fort Leavenworth, Kansas, for temporary duty. S. O. 155, Department of the Missouri, July 19, 1880.

TAYLOR, A. W., first lieutenant and assistant surgeon. Having reported at these head-quarters, is assigned to temporary duty at Fort Supply, Indian Territory. S. O. 155, C. S., Department of the Missouri.

" BOOKS AND PAMPHLETS RECEIVED. — The Pathology, Diagnosis, and Treatment of Diseases of Women, including the Diagnosis of Pregnancy. By Grailey Hewitt, M. D. Lond. Third American from the third London edition. Illustrated Philadelphia: Lindsay and Blakiston. 1880.

Transactions of the Indiana State Medical Society. 1880. Indianapolis.

Eleventh Report of the State Board of Health of Massachusetts for the Six Months ending June 30, 1879. Boston.

Sympathetic Affections of the Eye. By C. J. Lundy, M. D. (Reprint.)

Diabetic Cataract, Iritis, etc. A Clinical Lecture by C. J. Lundy, M. D. (Reprint.)

Prescribing Alcoholics. By John Blackmer, M. D. New York. 1880.

An Unique Case of Conjunctival Lupus. By E. S. Peck. (Reprint.)

Hallux Valgus, with a Report of two Successful Cases. By Albert N. Blodgett, M. D., Boston, Mass. (Reprinted from the Medical Record, July 10, 1880.)

How Vivisection concerns every Citizen. By Lewis S. Pitcher, M. D. (Reprint.)

Original Articles.

THE PREVENTION OF THE SPREAD OF TYPHOID FEVER.¹

ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, 1880.

BY THOMAS H. GAGE, M. D., OF WORCESTER.

THE views, therefore, of so eminent and original an observer as Dr. Budd would seem to demand our first and most respectful consideration.

He held that typhoid fever is in its essence a contagious or self-propagating fever; that it is a member of the great natural family of contagious fevers, of which small-pox, scarlet fever, and measles are to us the most familiar examples; that, like other members of the family, it has for its exciting cause its own specific poison, and never any other; that this specific poison breeds and multiplies itself to an unlimited extent in the living body of the infected man; and that this reproduction of it in the infected body, together with all the disturbance to which its rapid and tumultuous growth gives rise, constitutes the fever. He held that this enormous reproduction of the poison in the system is in typhoid fever precisely the same in kind as that of which we have in the pustular eruption of small-pox an outward ocular demonstration; that the disease of the intestine, which is the distinctive anatomical mark of typhoid fever, and its only constant and characteristic lesion, is the specific eruption of the fever; and that this intestinal eruption bears precisely the same pathological relation to the disease that the pustular eruption upon the skin does to small-pox.

As might be anticipated from such views, he held that the contagious matter by which the fever is propagated is cast off, chiefly, in the discharges, from the diseased intestine, and that it makes a large constituent part of every intestinal evacuation. Further, that, as a necessary result, privies, sewers, and cess-pools, which, under existing sanitary arrangements, are the common receptacles of these discharges are also the principal instruments in the transmission of the contagion, but that they never originate it, and that it is never in them, except as they have received it from a diseased person.

Taking cognizance, however, of the fact that physicians, nurses, and other attendants upon the sick are often remarkably exempt from infection, and that, consequently, the contagious matter as it appears in the dejections upon their issue from the body is not probably in a condition favorable to the manifestation of immediate activity, he held that it requires to undergo some changes, outside the body, to fit it for transmission. It was his idea that when first cast off it is, so to speak, in *bulk*; that it appears in the discharges in the form of "clots or pellets of yellow matter," which are "to the contagious germs that float impalpable in air or water much as the block of granite is to the dust into which it may be ground;" and that before it can exert to its full extent the contagious power inherent in it, the infective germ or particle must be liberated from its entanglements and the organic husks in which it is imbedded, by drying, fermentation, or some other mode of disintegration and subdivision. But while it was his belief that such processes external to the living body were necessary to the liberation of the

"fever seed," and so to its ultimate dispersal, he did not think that the contagious agent acquired by the means any new powers, or gained any increase in quantity.

With regard to the spreading of the disease, he maintained that the poison, having been thus propagated and cast forth and prepared for final dispersion, may be conveyed to healthy persons in the vicinity of the sick, and even to those at a distance, by the same media of transmission that serve to convey the poison of other contagious diseases, with, however, one important additional medium, that of drinking-water, which the poison of this infects because the discharges infect the ground. And he believed that the course and progress of the disease in individual cases, and in its mode of spreading, increased and confirmed the evidences of its analogy with the contagious eruptive fevers; that, like all the members of that class, it has its incubative stage, and its stages of invasion, continuance, and decline; that, like them, it usually attacks the same individual but once; that it spreads as they spread from single cases; and that its spreading requires, as with them, the lapse of a fixed and uniform time after the occurrence of the first case,—a time during which the poison may not only prepare itself for transmission, but be transmitted to and incubate in the person of a new sufferer.

Thus, according to Dr. Budd, typhoid fever is an eruptive fever, differing only from other eruptive fevers in the seat of the eruption, and in the manner of giving off and dispersing its contagious poison.

As a necessary result he held that it is kept in existence by a continuous succession of cases, and that wherever a case occurs it is the lineal descendant of one that somewhere preceded it. He recognized, of course, the great difficulty, at times, of tracing this lineage, and the fact that it is often impossible. But he held that if due care is exercised in obtaining the historical facts the difficulty will not be greater in this than in many another sporadic case of universally acknowledged contagious disease. It was his unhesitating belief that the line of descent, discovered or undiscovered, always exists. But he held that, while it may not be always easy to learn the origin of the first single case in an outbreak, no such difficulty can ever exist with regard to any of the cases that may follow. These, whatever their number or the order of their occurrence, will be the immediate or remote descendants of that. To the contamination of the air, or of the ground, by the poison derived from the intestinal discharges of the first all that follow may trace an undoubted origin.

Observing now that these bowel discharges, with all the contagious properties they possess, are as they issue from the body completely within human control,—subject, indeed, to human disposal,—it occurred to him that if the poison they contain could be destroyed before being cast out upon the ground, or into privies, or cess-pools, or sewers, the spreading of the disease through their agency might be prevented. Upon the idea so suggested he proceeded to act. Knowing the power of strong chemical agents to destroy the contagious poison of other contagious disease, when subjected to them in circumscribed and limited form, he determined to subject the typhoid excreta to the influence of precisely such agents. He caused the dejections to be received into vessels containing solutions of strong caustic and disinfectant substances, and after they had been so received directed that still more of the same solutions

¹ Concluded from page 104.

should be poured upon them. 'Remembering also, from the subtle and impalpable nature of the poison, that everything which might have been soiled would be liable to become a medium of its transmission, he caused equally disinfected precautions to be exercised with regard to the bed and body linen of the patient, and with regard to the person of the patient himself. He did not forget the minutest details or the remotest possibilities; not even the possibly soiled hands of the attendant or nurse. He put such measures to the test of severest trial, and demonstrated that what had seemed theoretically possible was actually practicable. He satisfied himself that the discharges might be disinfected, and that disinfecting them prevented the spreading of the disease. He applied the methods in hospital practice and in a large private practice, and with uniform success. He applied them in convents and schools and other large establishments where the disease was in progress and rapidly spreading, and through their agency arrested the epidemic.

Upon such views and by such methods Dr. Budd attained the object of his "burning desire," and thenceforth to show why prevention by disinfection is possible, by what means it may certainly be accomplished, and to urge the adoption of the disinfected plan upon the profession and the public, became almost the absorbing purpose of his life. He prepared for popular use a set of rules for preventing the spread of the disease, with a clear statement for the popular ear of the assured knowledge which makes prevention possible. These rules are so simple, so plain, and withal so practicable that almost any one may comprehend them, and almost any one may easily apply them. They are too long for reproduction here, and I can only refer you to them now. I wish they might be distributed in every household in New England, and I cannot believe that the lesson they are intended to teach would be taught in vain. I simply quote the paragraph with which they close, and with it take my leave of the distinguished author and his attractive views: "These are golden rules. Where they are neglected the fever may become a deadly scourge; where they are strictly carried out it seldom spreads beyond the person first attacked."

It will occur, I presume, to every one familiar with the history of opinions upon typhoid fever that there is little of positive originality in these views of Dr. Budd, except so far as they relate to the measures of prevention proposed. In forming his theory of the nature of the disease, and of its pathology and mode of spreading by contagiousness of the discharges, it is probable that he only took up and enlarged upon ideas which had been advanced before his time. Bretonneau, in France, had published his well-known observations ten years before Dr. Budd saw the epidemic at North Tawton, and had pointed out what appeared to him to be the true significance of the abdominal lesion. It was with him that the opinion originated that this lesion is a true furuncular eruption, and that typhoid fever is an exanthematous fever. The opinion has since been maintained by many observers of great eminence, and by none with more ability than by Trousseau.

No one here who recalls the memorable address delivered before this society forty-five years ago will fail to observe how strikingly the elaborate views we have been considering sustain and extend the parallel of marked affinities drawn there by Dr. Bigelow between typhoid fever and the class of eruptive fevers. And no one conversant with the well-known opinions of Dr.

Nathan Smith upon the contagiousness of the disease will fail to notice how they corroborate and explain the original observations of that remarkable man. Nor will it escape remark that the opinions of Dr. Smith, which were given to the profession almost sixty years ago, were founded upon an experience of precisely the same general nature as that which first attracted to the subject the attention of Dr. Budd.

The doctrines I have presented for your consideration, with all their practical conclusions and applications, have been adopted without qualification or reserve by living scientific men of the highest eminence. Among such it is enough to mention the names of Sir Thomas Watson and Dr. Aitken, both of whom have lent to them, in their elaborate works upon *The Theory and Practice of Medicine*, their powerful sanction. But they have received the most influential support and perhaps the most decided impulse at the hands of the distinguished author of the article upon typhoid fever in Ziemssen's *Cyclopædia of Practical Medicine*. It is true that Liebermeister is not in full accord with Dr. Budd in regard to the natural history of the typhoid poison. He maintains with the latter that it multiplies in the body and is contained in the alvine evacuations. But it is his idea that it requires for the full development of its infective powers to undergo a stage of growth and multiplication outside the body, in connection with decomposing animal and vegetable matter, such as, eminently, it finds in privies and cess-pools and sewers. According to his theory, "the poison travels from the diseased individual to localities favorable for its growth and multiplication, and from these localities again into the human body."

As to the fact that the disease never occurs spontaneously, but is due always to a disease germ originating in some previous case, and as to the absolute certainty of the relation between the first case of any outbreak and the cases that follow, these authors are in perfect accord. The danger that will result from allowing single cases to establish centres of infection, and so to give rise to epidemics, is constantly dwelt upon by Liebermeister. It is especially against the formation of these foci of infection through the agency of the intestinal discharges that he urges preventive measures. That their formation may be prevented, and that therefore spreading may be prevented, he gives the most constant and encouraging assurance.

The measures upon which he relies differ in nothing essential from those advised by Dr. Budd. They are applied to the same material and with the same purpose, and are recommended with precisely the same degree of confidence. Alluding to their efficiency, he declares that "if the physician," in their application, "is supported by tolerably intelligent attendants, he may give the fullest guaranty that no extension of the disease will ensue from a single case."

Numerous authors and observers, whose high character gives great weight to any opinions they may offer, and who have adopted fully, or in the main, the views of Liebermeister in regard to the origin and cause of spreading in epidemics of the disease, have borne almost equally plain and decided testimony to the value of disinfected methods. Professor Loomis, of the University of New York, in his recently published *Lectures upon Fevers*, says in regard to this matter, after giving direction for the disinfection of the discharges, "This procedure will certainly destroy the infective power of the typhoid poison contained in the

intestinal discharges, and in the majority of instances you will prevent the spread of the fever."

A committee of distinguished Fellows of this society, appointed six years ago by the city of Boston to examine into and report upon the causes of the high rate of mortality in that city, speaking of the measures of prevention against this disease, say, "Our first line of defense against the spread of typhoid fever from a diseased individual consists in the proper treatment of the dejections, which are held to contain the seeds of the disease."

In a lecture upon the origin and propagation of typhoid fever, delivered within a few weeks before the Royal College of Physicians, of London, by Dr. William Cayley, of the London Fever Hospital, the speaker, after a discussion of the important question as to how soon after their issue from the body the stools acquire contagious properties, draws the following practical conclusion: "That we have in all cases a few hours, during which it lies in our power to render the poison innocuous and to prevent the spread of the disease by direct infection."

Mr. Simon, the eminent English sanitarian, speaking of the importance and possible value of disinfectant measures in the prevention of infectious diseases, and this among the rest, says, "It is greatly to be hoped that with time and with progress of general education the systematic doing of such acts as these will in each sick house be considered an imperative duty of good citizenship, and may at last be so fully understood in that light as to be made as far as practicable an obligation at law."

But it is unnecessary to pursue either the theory or the testimony farther. I have spoken to you of the spreading of the disease *as it occurs among us*. I have pointed out the fact that in our experience spreading begins with a single case, and that other cases do not usually follow for two or three weeks, — a fact sufficient of itself to establish an *a priori* probability that the first stands to the last in the relation of cause to effect. I have called attention to a theory which explains this relation, and shows that the last cases are caused by a poison derived from the first, and that the intestinal discharges of the first are the medium of communication. I have shown how there has grown out of this theory a possible and practicable plan for preventing the disease from spreading, and have suggested the general features of that plan. I have given you the assurance of its most prominent advocate that it has been put to the test of severest practical trial for years, and always found successful, and I have introduced abundant corroborative testimony from other sources of high authority. In doing this, I have accomplished the main object I had in view at the beginning by showing that there is not only reasonableness, but great weight of testimony, in favor of the possibility and practicability of preventing, or at least of diminishing, the spreading of the disease as it occurs among us.

I need hardly dwell upon the obvious, practical conclusion that if this theory is true every case of the disease, wherever it may occur, whether mild or severe, ambulatory or confined to the bed, may be, if left to itself, the first case of a serious outbreak. Nor do I need to remind you that if this plan of prevention is to be carried out and is to be effectual it must be entirely under the advice and direction of the attending physician, and form an important part of the general and

prescribed treatment of each individual case, and that an essential prerequisite of its success is "that whatever be done should be done in that thorough and conscientious way which alone befits acts which may issue in health or disease, in life or death, to indefinite numbers of men."

I am aware that for many years a very different theory of the cause of typhoid fever and of the endemics which mark its course has prevailed in Massachusetts. I suppose it still prevails. It is that the disease originates in a poison which is generated outside the human body, in dead organic matter, in filth, in decomposition of animal and vegetable substances, in putrescence. This theory, which originated with Dr. Murchison, and from whom it received the name of "pythogenic," — born of putrescence, — has been, as you are well aware, very ably presented and supported here by the late Dr. Derby, in a paper on this subject, which has justly attracted the attention of sanitarians in all parts of the world. The conclusions arrived at by Dr. Derby, in forming which he had the assistance by correspondence of a great number of the leading physicians of the State, have long been the apparently accepted doctrines of the medical profession among us. Under this theory it has usually been considered a satisfactory explanation of one of the terrible outbreaks we have considered to find that the air of the house had been vitiated by decomposing vegetable matter in the cellar, or by emanations from surrounding filth; or that the drinking-water had been made foul by the filtration into it of the products of decomposition from neighboring privies or sink-drains. To these influences, or to some combinations of them, have been ascribed almost every example of spreading I have found alluded to in our "health of town" reports; and in none of them until those of the present year have I found allusion to the intestinal discharges of the typhoid patient as the source of the poison by which privies and cess-pools and sewers become the communicators of the disease.

I have avoided entering into any argument in support of the theory to which I have called your attention to-day, and I do not propose to enter into one to show that the theory of origin in putrescence is incorrect. It is only to the difference between the two in their practical bearing upon prevention that I would wish to direct attention. The doctrines of Dr. Budd and of Liebermeister, that the typhoid poison has a vital, living origin in the human body, propose a simple, plain, practical test, by which they may be tried and their truth or falsity proved. Upon the result, when the method is faithfully carried out, they are content to stand or fall. The test is not difficult to apply. If applied and unsuccessful, no harm has been done. If applied and successful, a great good has been accomplished. Had they been put to the test in the three cases to which I have called your particular attention by way of illustration, and had they been as successful as their advocates promise, the result would have saved in those instances alone a protracted and dangerous illness to at least twenty-three persons and not less than nine valuable lives.

It seems hardly possible that we can overestimate the importance of the point we have been considering in its relations to the general subject. From the earliest times of which we have any authentic medical knowledge, typhoid fever has been among us a perpetual and unrelenting scourge. Some of our most

dreaded and destructive forms of pestilence come and go, — ravage for a time, and then depart. Diphtheria, one of the oldest of human diseases, had been absent from New England for almost two whole generations before its unlooked-for reappearance in 1857, and had become well-nigh forgotten in our medical literature. Small-pox almost wholly disappeared from our community during the thirty or forty years which immediately followed the introduction of vaccination; then gradually regained a footing, and has continued to prevail ever since to a greater or less degree. Cholera, now and then, at long and irregular intervals of time, suddenly and abruptly visits us, lingers for a time, and then as suddenly and abruptly takes its departure. Cerebro-spinal meningitis, at times one of the most malignant of epidemics, gives also long and happy periods of exemption. But typhoid fever stays. It never leaves us. It never grants our people a respite even for a day. Somewhere among us it is always present, doing its specific work, which is to multiply and replenish and scatter abroad the morbid agencies by which, from generation to generation, it perpetuates its baleful existence among men.

In forty years, from 1840 to 1880, a period which falls within the professional recollection of many of the gentlemen whom I see before me, there have perished by typhoid fever alone, in Massachusetts, forty thousand persons, — *about* forty thousand persons. It is a common opinion, founded upon observation and statistics, that for every one who dies by this disease at least eight or nine suffer by it and recover. If we adopt the method of computation, it will appear that the number of those who, during the same period, have been made sick by it and have not died can hardly be less than three hundred and fifty thousand. These are startling figures. But if either of the statements were made less general and in terms more precise and particular, as by the aid of what are considered reliable statistics would be practicable, the immense aggregates would be increased rather than diminished. The annual average of this sickness and death is as if, every year, for the space of forty years, all the inhabitants of some one of our populous and important towns, like Northampton, for example, or Malden, had been attacked by typhoid fever, and one in ten had died.

But, after all, bald figures and statistical statements can convey but an imperfect idea, except by suggestion, of what our people have really suffered in their persons and their homes, directly and indirectly, by the disease. Just as, after a long and destructive war, it is possible to count up the immediate casualties of the field, — so many slain, and so many wounded, — but impossible to state in words or figures the indirect, remote, far-reaching consequences of the deadly strife upon individuals and the community, so here, reviewing the contest of years between our people and a most destructive disease, we can count up the dead and compute the number of those who have sickened and have not died, but we cannot give in arithmetical statement or in words the disastrous result of the unequal conflict upon their fortunes and their happiness.

We cannot adequately estimate even the pecuniary loss which it has brought upon individuals, nor yet that which it has occasioned the state, by the death and disabling of such vast numbers of its efficient and productive members; much less can we enumerate the families it has broken up and scattered, the cherished hopes it has crushed forever, the dependent and

the helpless from whom it has snatched the reliance and support, or yet the many, many homes where its dark shadow has fallen, never to be lifted up.

Fellows, the animating purpose of what I have now imperfectly presented has been to suggest and to urge the adoption of some tried and approved methods by which the physicians and the people of the State, in their individual capacity, may effectually aid and supplement the efforts of boards of health and sanitary authorities generally, in the prevention or in the mitigation of one of the severest features of the disease. And here I close, invoking for the subject once more not merely a present consideration, but a future and fuller discussion.

APPENDIX.

RULES FOR PREVENTING THE SPREAD OF TYPHOID FEVER, DRAWN UP FOR POPULAR USE.

The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing.

They are founded on the discovery that the poison by which this fever spreads is almost entirely contained in the discharges from the bowels.

These discharges infect: (1) The air of the sick-room. (2.) The bed and body linen of the patient. (3.) The privy and the cess-pool, or the drains proceeding from them.

From the privy or drain the poison often soaks into the well and infects the drinking-water. This last, when it happens, is of all forms of fever poisoning the most deadly.

In these various ways the infection proceeding from the bowel discharges often spreads the fever far and wide.

The one great thing to aim at, therefore, is to disinfect these discharges on their very escape from the body, and before they are carried from the sick-room.

This may be perfectly done by the use of disinfectants; one of the best is made of green copperas. This substance, which is used by all shoe-makers, is very cheap, and may be had everywhere. A pound and a half of green copperas to a gallon of water is the proper strength. A teacupful of this liquid put into the night-pan every time before it is used by the patient renders the bowel discharge perfectly harmless.¹ One part of Calvert's liquid carbolic acid in fifty parts of water is equally efficacious.

To disinfect the bed and body linen and bedding generally, chloride of lime, or MacDougall's or Calvert's powder, is more convenient. These powders should be sprinkled by means of a common dredger on soiled spots on the linen, and about the room to purify the air.

All articles of bed and body linen should be plunged, immediately on their removal from the bed, into a bucket of water containing a tablespoonful of chloride of lime or MacDougall's or Calvert's powder, *and should be boiled before being washed.* A yard of thin, wide gutta percha placed beneath the blanket, under the breech of the patient, by effectually preventing the discharges from soaking into the bed is a great additional safeguard.

The privy, or closet, and all drains communicating with it should be flushed twice daily with the green

¹ As the discharge is sometimes much more copious than at others, the quantity of disinfectant added must of course be copious in the same proportion. A teacupful is mentioned in the rules, but the principle is to be lavish of the chemical.

copperas liquid, or with carbolic acid diluted with water.

In towns and villages where the fever is already prevalent, the last rule should be put in force for all houses, whether there be fever in them or not, and for all public drains.

In the event of death the body should be placed as soon as possible in a coffin sprinkled with disinfectants. Early burial is on all accounts desirable.

As the hands of those attending on the sick often become unavoidably soiled by the discharges from the bowel, they should be frequently washed.

The sick-room should be kept well ventilated day and night.

The greatest possible care should be taken with regard to the drinking-water. Where there is the slightest risk of its having become tainted with fever poison, water should be got from a pure source, or should at least be boiled before being drunk. Immediately after the illness is over, whether ending in death or in recovery, the dresses worn by the nurses should be washed or destroyed, and the bed and room occupied by the sick should be thoroughly disinfected.

These are golden rules. Where they are neglected the fever may become a deadly scourge; where they are strictly carried out it seldom spreads beyond the person first attacked.

W. B.

NOTE. Dr. Budd's own practice was to place in the sick-room, or close at hand, a large can filled with the mixed solution of carbolic acid and sulphate of iron; to keep the night-pan always charged with it, and after each use of the pan to pour upon the discharge a quantity of the solution sufficient to insure the disinfection of what had been voided.

Calvert's liquid carbolic acid, which is referred to, is of about the same strength as the acidum carbolicum impurum of the United States Pharmacopœia, and the latter may be substituted for it.

"MacDougall's powder contains about thirty-three per cent. of carbolate of lime, fifty-nine per cent. of sulphite of magnesia, the rest being water.

"Calvert's powder contains from twenty to thirty per cent. of carbolic acid mixed with the powdered refuse from alum works."¹

These "powders" are favorite disinfectant compounds in Great Britain, and can be obtained without difficulty, but Dr. Budd appears to consider the chloride of lime for dredging purposes equally efficacious.

T. H. G.

BACTERIA, AND THEIR RELATIONS TO DISEASE.²

BY WILLIAM F. WHITNEY, M. D., OF BOSTON.

It is proposed in this paper to give a brief sketch of the classification and mode of development of bacteria, together with a consideration of the points in favor of regarding them as the originators of the diseases with which they are found associated, in order to see what principles should serve as guides in the interpretation of results or the criticism of the work of others.

¹ The Antiseptic System, A. E. Sansom, London, 1871, page 204.

² Read before the Massachusetts Medical Society at its annual meeting, June 8, 1880, and recommended for publication by the society.

First, considering their natural position and mode of development.

These organisms are doubtless vegetables, and as such have been placed in the lowest division of the cryptogams (the order containing the mosses, fungi, and the like), under the name of bacteria or schizomycetes. Their general characteristics are described by Cohn as follows: Cells without chlorophyll, of round, oblong, or cylindrical form, at times twisted or bent, which increase entirely by division and vegetate either singly or in colonies. The cell contents consists of protoplasm, surrounded by a cell membrane, closely allied to cellulose, and insoluble in caustic alkalies. Their presence in large numbers gives a cloudy or milky appearance to the fluid in which they vegetate; but if present in small numbers, or if the index of refraction is the same as that of the fluid in which they are suspended, their presence is only to be determined by aid of the microscope.

The bacteria are divided into four tribes, and these again into one or more genera, as follows:—

Tribe I. Spherobacteria (Round Bacteria). Genus

1. Micrococcus.

Tribe II. Microbacteria (Rod-Like Bacteria). Genus

2. Bacterium.

Tribe III. Desmobacteria (Thread-Like Bacteria). Genus

3. Bacillus. Genus 4. Vibrio.

Tribe IV. Spirobacteria (Screw-Like Bacteria). Genus

5. Spirillum. Genus 6. Spirochæta.

The development of the spherobacteria (micrococcus) is as follows: The cells divide, and are usually found joined together by twos, the point of junction being markedly contracted. By further division there can be formed short chains of three, four, eight, or more members, which are either stiff, straight, or bent, and in consequence of their contractions have an appearance like a rosary. This has received the name of the torula form. Besides this, there occur two other forms: one where the cells have become twisted or disarranged, and form small irregular masses of bands, and but a step removed; the second, or so-called zooglœa form, where the cells are produced in all directions, and bound together by a very tender, gelatinous, or mucous-like mass, giving to the whole, under the microscope, an appearance very like that of shark skin. These bacteria have no movement.

Further than this they present no distinction of size or form, and their division into species is based upon the action which they are supposed to exercise; and they have been distributed among three groups, namely, chromogenous (producing pigment), zymogenous (causing fermentation), and pathogenous (causing disease).

The pigment-producing micrococci are all harmless. The oldest and best known, the micrococcus prodigiosus (Ehrn.), will serve as an example, for it is that which produces red spots on boiled potatoes or bread, and has given rise to the superstitious name of "the bleeding host." There are several others named after the colors which they produce: a yellow, which is insoluble in water; and orange, green, and blue, which are soluble in water.

Of the ferment-working micrococci, the one causing the alkaline fermentation of the urine, called micrococcus ureæ, is the best recognized, and the indirect effect it has upon the economy will be considered later. Micrococci are always found in putrefying substances associated with the rod-like forms (bacterium proper), but as yet their peculiar action has not been determined.

The evidence of the existence of pathogenous micrococci will be entered upon more fully in the second portion of the paper.

The microbacteria (rod-like bacteria) are closely allied to the micrococci by the smallness of their cells and their union together by means of gelatinous or mucous masses; but they differ, apart from their physiological activity, in their short cylindrical form and the spontaneous movement of their cells. In this tribe is only one genus, namely, bacterium. They increase by division; but the daughter cells are never united in chains, as in the torula form of micrococcus, but are joined together by a glue-like mass into the zoöglæa form, which differs from that of the micrococcus in its less finely granular appearance under the microscope.

The blue and yellow color occurring at times in milk, as well as the blue-green color sometimes seen in pus, are due to a chromogenous bacterium.

The best known form, however, is that which is always present in all putrefying substances, and which, from the careful works of Pasteur and Cohn, and verified by all subsequent observers, is to be considered as the originator of the process. The acetic and lactic acid fermentations are also due to a bacterium, according to Pasteur.

Another form, larger than the last mentioned, is found upon still but not stagnant water, and at times upon cooked potatoes. It is apparently without fermentative action, and is called bacterium lineola.

There is no pathogenous bacterium.

The third tribe, the desmobacteria (thread-like bacteria), comprises two genera, the first possessing straight threads and called bacillus, and the second having wavy, bent, or twisted threads, and named vibrio. The single cells consist of elongated cylinders, which increase to longer or shorter chains, that are not constricted in the manner of the rosary form (torula) of the micrococci, but are cylindrical throughout. The desmobacteria form colonies, but are never joined together by the glue-like mass into the zoöglæa form of micrococcus and bacterium. At times they show motion, and then occur periods of repose depending upon unknown conditions, except that it seems to stand in some relation to the amount of oxygen present.

There are no chromogenous members in the tribe of the desmobacteria.

One of the genus bacillus, *B. subtilis*, has been found to be the agent in the butyric acid fermentation. It consists of very thin, fine, tender fibres, the points of division of which are not easily recognized. They have a motion which is quite peculiar, at times swimming forward in a straight line; then quickly with a zig-zag motion, as if finding their way among obstacles; then motionless for a long time; and then moving straight forward and again backward, without turning upon their axis.

Several members stand in the closest relation with disease. In the first rank comes the bacillus anthracis, Cohn, the cause of gangrene of the spleen (charbon, miltzbrand). It is hardly to be distinguished from the foregoing by its external appearance.

Moreover, there are three others, which, as will be seen later, are intimately connected with septicæmia and pyæmia, with malaria, and with leprosy.

The genus vibrio is distinguished by its wavy outline, and forms a connecting link with the twisted or spirillum forms of the next tribe. Their threads are united together in countless numbers to form colonies.

During life they have a motion like that of bacillus, and the picture presented by the entangling and dis-entangling of these myriads of threads is peculiar in the extreme. They are found in the mouth about the teeth, but as yet no action has been traced to them.

The fourth and last tribe, the spirobacteria, are characterized by the thick and closely wound spiral, which in one case is surmounted by a cilium, which distinguishes it at once from all other bacteria, although Ehrenberg suspected that many more would be found to possess them. Two genera are recognized:—

(a.) Spirochæte, with a more flexible and longer narrow wound spiral.

(b.) Spirillum, with stiffer, shorter, and more distinct spiral.

The spirochæte occurs as *spirochæte plicatilis* in the mouth, and as *spirochæte Obermeyerii* in remittent fever: the first apparently without action, and the value of the latter to be considered later.

No action has as yet been referred to the spirilla, and it seems little likely that they would have been overlooked, as from their size they are easily recognized, the spirilla vullutans with its long cilia being a perfect giant among bacteria.

The inexactness of these divisions is clearly seen, but it is the best there is to-day, and will at least serve as a working system. Cohn very truly says that we find ourselves, in the kingdom of the bacteria, in a position similar to that of the traveler who wanders about in an unknown land in the dusk of evening, when the light is not sufficient to distinguish the objects sharply and clearly from each other, and where he feels sure that in spite of every precaution he cannot guard himself from error.

THE DISEASES CAUSED BY BACTERIA.

In considering the diseases said to be caused by bacteria, it will be well to present first those about which there is the least doubt, in order that the controverted points may be the more easily understood.

The disease the parasitic origin of which is best established was also the first to be discovered. This disease occurs chiefly among animals, and is known under the name of gangrene of the spleen, — charbon. *Fr.*, miltzbrand, *Ger.* It, however, is capable of being communicated to men, and has received the name of malignant pustule. It was first mentioned by Devaine in 1850, and the following is the description of the microscopic appearances of the blood: "The corpuscles, instead of remaining distinct, generally glue themselves together into irregular masses; besides, there were present small filiform bodies having about twice the diameter of a blood corpuscle. These little bodies did not present any spontaneous movement." These few lines, written thirty years ago, are the starting-point of what must be considered one of the most important questions of the day, with the right solution of which the welfare of all is most closely united.

It will be impossible to follow the development of the subject step by step. But a summary of the work of Devaine, Pasteur, and Kock will show that the subject has been placed upon as sure a foundation as any incapable of mathematical demonstration.

Kock traced the development of these little bodies, which belong to the genus bacillus and are called bacillus anthracis. He found that when a small quantity of material containing bacilli was injected into a mouse there was in a short time a great increase of these ele-

ments; and, after growing to a certain length, they began to divide. He therefore concluded that the bacillus was capable of development within the blood and tissues of living animals in the same manner as other bacteria without the body.

In order to follow the changes closely, a small drop containing bacilli was placed in a little blood serum or humor aqueus and kept in a warm chamber freely supplied with air. Placed under the microscope, the development of a single thread could thus be observed. It was seen first of all to increase to many times its original length. Then it became finely granular in appearance, and in places appeared small, strongly refracting particles at regular intervals. These further developed into somewhat oval, strongly refracting bodies, imbedded in the substance of the thread, and making the field of the microscope look as if covered with chains of pearls.

From this it was concluded that in the blood of a dead animal or other suitable fluid, within certain conditions of temperature and with a free entrance of air (oxygen), the bacillus forms extremely long, unbranching threads, and finally countless spores.

If now a drop of fluid, which, under the microscope, showed nothing but spores, was allowed to dry quickly, care being taken to prevent the admixture of foreign matter which might contain the spores of other bacteria, and reserved for several hours or days, and then placed in a suitable breeding fluid (previously sterilized), and kept at a constant temperature of 35° C., the following changes were seen. After one half hour the substance lying between the spores disappeared; after three quarters of an hour the spores began to increase in size, and then developed in the following manner: each egg-shaped spore became surrounded by a clear, glass-like mass; this increased at one point in the direction of the long axis of the spore, until it assumed a long, oval form, with the spore remaining at one end of the cylindrical body. The spore then began to lose lustre, quickly became pale, fell to pieces, and finally disappeared. With this the circle of changes in the development of bacillus anthracis is ended.

From this it is seen that the spores of the bacillus anthracis under certain conditions (constant uniform temperature, proper food, and free access of air) develop directly into the bacilli originally found in the blood.

The temperature between which the production of spores was possible varied between 18° C. and 40° C., but the point at which they attained their quickest growth was about 35° C.

Further experiments showed that substances containing only the bacillus threads retained their inoculability, when dried, from a few days to several weeks, the length of time depending upon the amount of the substance dried.

Substances containing spores, on the other hand, even when thoroughly dried at ordinary temperature, retained their virulence for years unimpaired.

An experiment to prove the necessity of oxygen for the proper development of the spores consisted in placing a little fluid containing bacilli in a watch-glass exposed to the air. Bacteria and micrococci were developed with putrefactive changes, but at the same time the bacillus produced its spores. If, however, the substance was placed in a closed glass tube or cell to which a free entrance of air (oxygen) is not permitted, the bacilli do not grow, but gradually undergo

degeneration, while the bacteria and micrococci thrive luxuriantly, and putrefaction takes place.

To prove that the virulent properties were inseparably connected with the bacillus, fluid containing spores was allowed to stand quietly in a tall vessel, when it was found that the different layers of the fluid were capable of producing the disease in direct proportion to the number of spores they contained as shown by the microscope. Pasteur carried this a step further, and filtered the fluid through plaster of Paris, through which the bacilli were unable to pass. He found that the filtrate only had the property of causing the blood corpuscles to agglutinate at the point of application, while the filtrant (containing bacilli) was infectious in the extreme. Pasteur has also succeeded in cultivating the bacillus through twelve generations in a purely mineral fluid (by successively taking a single drop of the preceding for a new cultivation, thus making the amount of original substance used a vanishing quantity in the last generation), and the last generation was as effective in producing the disease as the direct inoculation.

It is a well-established fact that certain animals are incapable of inoculation, and this has been urged to show that the bacillus has nothing to do with the disease beyond an accidental association. But the same argument could be used to show that datura is not poisonous because sheep can eat it with impunity, or that belladonna is harmless because hens and rabbits are unaffected by it.

The manner in which the bacillus acts in the economy is not as yet fully decided. Part of its action is undoubtedly due to its great avidity for oxygen, of which it deprives the tissues, and its development in such large numbers as to form veritable emboli, and thus obstruct the circulation. Its pyrogenic action is shown by the local inflammation of the lymphatic glands, which is a constant accompaniment of the disease.

(To be concluded.)

ECZEMA AND ITS RELATIONS: A RAMBLING SKETCH.¹

BY GEORGE A. BETHUNE, M. D.

"Knowledge by suffering entereth."

It occurred to me, as part of the duty which it has so often been said every man owes to his profession, to give my own personal experience in eczema.

It is hardly necessary to say that eczema is a very common disease, which perhaps few escape altogether. In its more severe form it is the cause of great trouble. Bielt says that it does not kill, but often makes life not worth having. According to a late English writer it is a not infrequent cause of suicide.

It seems occasionally a hereditary substitute for gout. Several of my father's family were victims of this disease, though neither my father nor myself ever had it. It may be connected with catarrh of the mucous membrane of the nose and, as I suspect, of the intestines. It attacks every kind of skin, but especially fine skins and those which sweat freely. Sweating, no doubt, softens the epithelium and denudes the skin, and so leads to inflammation. This was the case with myself and my father, men of usually strong health, but both severe sufferers from eczema. In

¹ Read before the Boston Society for Medical Improvement.

both cases the bowels were rather disposed to be loose and subject to diarrhoea on slight provocation.

I well remember, many years ago, when I was a medical student, making an engagement with a friend to go out shooting in midwinter. For some time previous the weather had been very mild. We were to start early in the morning. Suddenly during the night the thermometer fell below zero. My friend appeared punctually, and we started. I put on two shirts, and did not feel the cold at the time, as it was quite calm, and the exercise was delightful. I shot a partridge on the wing, the only shot I had. On returning to the house I was seized with severe griping, and the whole contents of the bowels were emptied, as in a case of cholera. I was entirely relieved, and drove home, nine miles, perfectly comfortable.

A similar result followed from a different exposure in Paris within two or three years of this time, after a dinner at the Rocher de Caucale, such a one as now may be vainly sighed for, in company among others of my friends Dr. Hooper, Dr. Inches, Dr. O. W. Holmes, and the late Dr. Mason Warren. It perhaps, under these circumstances, will not be thought remarkable that I exceeded the strict bounds of moderation. On reaching home I was seized in the same way as I had been on exposure to cold, was relieved in the same wholesale way, and immediately fell into a sound sleep, and awoke as well as usual.

Thirty or forty years ago I was considerably troubled with piles, attached inside the sphincter and pediculated. This tendency, with horseback exercise, may have had an influence in the subsequent eczema. I removed two or three of the piles with scissors without much difficulty. I dare say this has often been done, but I never knew but one man who stood up before a glass and removed a firm double tooth, Dr. Harwood, of this city, who, I hope, is still living,—an ardent sportsman, and perhaps the best dentist in the world. This may seem overstated, but a friend of mine, who went to London many years ago, had occasion to consult one of the leading dentists, who, on opening his mouth, immediately said, "I know who filled your teeth,—Harwood, of Boston. He is the best filler in the world."

PERSONAL HISTORY.

I never had the muscular strength of my father and brother, who were both powerful men, but I have always been what is called tough, and have found but few who can beat me on a long-continued exertion. I have always had a rapid circulation and reaction, and when heated in shooting, in hot weather, can sit down in a brook and partly cool off, not only without harm, but with great comfort, and this repeated four or five times a day. I have for many years been subject to occasional palpitation and pain in the cardiac region from nervous emotion, violent exertion, alcohol or strong coffee at night. In the early years of my practice, under worry of mind, I was so much affected in this way that I suspected organic disease of the heart, and consulted the late Dr. James Jackson, one of the wisest of men I have known, and always kind to younger men. After careful auscultation he smiled, said I had no organic disease, but rather an active heart, and added that my case was common with young men, and especially with young doctors. In a few days I was well.

In my father's case the *stomach* opened the gates of safety. I well remember the annual dinners of two

societies to which he belonged, and which he enjoyed highly. He was a temperate eater and drinker, though he always had wine on his table. On these social occasions he was tempted to eat and drink more than usual. I also well remember his return home, gay and cheerful,—a state of mind which lasted perhaps half an hour,—a gradual tendency to taciturnity, with paleness supplanting his usual ruddy look, sudden and profuse vomiting, with entire relief, to be repeated in all its particulars on the next anniversary. He died without any mortal disease that I could discover, at the age of ninety-one.

For at least forty years he was a severe sufferer from eczema in several places, but especially in the right leg, where it was combined with varicose veins and ulcers. I have often wished of late that I had at that time been able to apply in his case Dr. Martin's india-rubber bandage, as I am confident that it would have relieved and perhaps cured him. It should also be said that he was always getting a cold in the head, and always getting well.

In midsummer of 1836 a patch of eczema solare appeared on my right foot, just below the second toe. This followed an exposure to the hot sun on the deck of a Rhine steamer, and disappeared in a week, but returned at the same season for six or eight years in succession. I remained free from it till the spring of 1869, when the itching drew my attention to a red fungous granulation which I found at the lower part of the abdomen. I showed it to Dr. Cabot, who at first was startled, as it had a somewhat malignant look. After a moment's examination, however, he said it was nothing, and applied the solid nitrate of silver. It went off in a day or two, and he now agrees with me that it was an unusual form of eczema, induced by sweating.

I have before alluded to my habit of horseback exercise, which I kept up in all weathers for twenty years. In May, 1869, after a ride of ten miles, I was suddenly attacked with so violent itching that I could hardly remain long enough in the saddle to get home. I immediately consulted Dr. Cabot, who said it was trifling, and prescribed black wash. That night and for two or three nights I was kept awake by severe itching and an exudation of serum which absolutely soaked the bed. I again saw Dr. Cabot, who diluted the wash. The severe itching subsided, but I made no advance. I then, of my own accord, used Wilson's benzoated zinc ointment, with immediate improvement. I found so constant relief from this that from that time I have kept it in three places in my house, and apply it at once on feeling the itching. I also used cold-water injections of two ounces, applied with a common ear syringe as the readiest way, and found great benefit from cotton-wool inserted at the anus, and retained in place merely by the sphincter. I could not, with my habits of exercise, keep a T-bandage in place. At first I found the cotton-wool unbearable, but after withdrawal and reinsertion the part got used to it, and I should not have known of its presence by any sensation. In addition, I used twice a day sitz baths, of one half to three quarters of an hour each.

I was advised rest, but circumstances and habits made this impossible, and I found, to my great surprise, that the *most violent exercise* on foot was followed by decided improvement. I tried, after strong persuasion of two of the *lady*, as it is now the fashion to call them, an ointment of petroleum, and also one of "cuticura" at the earnest request of Mr. H., a lawyer of

high character, and entirely reliable for what he states of his own experience, who had consulted me for the same disease, and whose certificate appeared in the *Daily Advertiser*; but as he had already told me some time before that he had been *entirely cured* by the application of apple juice, he did not make much impression. I, however, to oblige these gentlemen, tried their applications without bad results, and returned to my benzoated zinc ointment.¹

I will mention an incident. A year ago last summer, on returning from Chateaugay Lake in New York, I was sitting on a barrel in the baggage-car, smoking, when a well-dressed, smart-looking man came in, whom I noticed observing me rather earnestly. After a while he came and spoke to me. He said he was a *drummer*. I remarked that, whatever might be objected to that class of men, I had never yet met with a *stupid drummer*, and asked him what he drummed. He said he sold "a certain cure for the piles." "And by the way, doctor," said he, "what is good for the piles? I am almost dead with them, and have tried everything, without relief." I gave him some instructions about his food; recommended cold-water injections, the habit of relieving his bowels just before he got into bed, when he would assume the supine posture, instead of his usual habit of evacuation after breakfast, and then standing or sitting many hours after having determined blood to the parts by the effort at stool. I have not seen or heard from him since. I mention this to show that even the great quacks and their missionaries are subject to the infirmities of common men.²

To return to our subject. For many years the original local disease has been so far kept under as to give but little trouble. I have observed that occasionally a part long infiltrated from eczema after being first hypertrophied afterwards becomes thinner by absorption. Of late years I have now and then suffered from attacks between the fingers and toes. For this last, shooting in felt or india-rubber shoes, with a hole in each to let out the water, and thick woolen socks coming above the knees, even sometimes in ice-water, keeping moving with soaked feet three to four, or in hot weather even six to eight hours a day, I have found of the greatest service.

In any form of eczema in which tissues under the surface are involved, after the acute inflammation has passed, in my experience the first principle is to disgorge the tissues. Often infiltration is followed by absorption, and so that the part itself becomes permanently smaller and harder, with a loss of its natural elasticity. I have also found, when itching begins, a great relief by emptying the vessels by pressure with the thumb and forefinger. The best time for this is early in the morning, when the circulation is languid and less trouble from reaction occurs, just before the cold bath.³ I regret much that on my first attack

I was not freely bled, and would certainly bleed in a similar case in myself or others in future.

EFFECTS OF ALCOHOL.

I generally drink a half pint of claret with water a day; in exceptional high health and after violent exercise one pint. I can go to bed and sleep soundly immediately after a full meal, if I have had such active exercise as shooting. As has often been said, why should not man follow the example of other animals, which sleep after eating? I suspect the reason is that, especially in cities, men eat and drink *too much*, and the effort of digestion interferes with sleep. I have tried more than once, by leaving off alcohol for three weeks at a time in the country, if I could observe a difference in any respect, but could not. In this, as in some other things, I am guided by a feeling of want in the system, for example, lager beer for a bitter and slight stimulant. I sometimes go six months or a year without it; then sudden longing for it comes on. In the same way seltzer water or plain soda at other times answers the demand from within.

Within the last three or four years I twice suddenly, without cause, and without obvious disease, began to feel my general health running down, with a partial loss of appetite, eating and drinking one third less than usual, without diarrhoea, loose instead of solid discharges, an almost total loss of my taste for tobacco, with a general feeling of inertia and depression and an inclination to sleep. This state of things lasted many months, and passed off as suddenly as it came, with entire reversal of all the symptoms.

The body is a most curious machine, with a mechanism inside and out incredibly fine, complicated, compensating, and therefore sensitive, complying with the general law in mechanics that, other things being equal, liability to derangement is proportionate to the delicacy of structure. In therapeutics it is especially necessary "to do the right thing at the right time." A coarse statistical statement is often worse than useless, and though founded on apparently similar facts may be to the last degree misleading and harmful. Two cases of pneumonia, for instance, may present the same anatomical lesion, and yet from the start one may require bleeding and the other stimulants.

Perhaps the same may be true of typhoid fever. In the epidemic of spotted fever of 1814, Dr. James Jackson told me he had a good many cases. This was no doubt a form of typhus, and was very fatal. Dr. Jackson also told me that if he was called early in the attack he always bled his patient, and *all such cases recovered*. This, if it does not prove the value of bleeding, is at any rate strong evidence that it is not so harmful as it has been the fashion to represent it for twenty or thirty years.

A balance should be kept between *what is called dirt* and cleanliness. Lord Palmerston said there was no such thing as dirt; it was only something in the wrong place. In Africa, an English traveler says that some of the tribes anoint themselves with a greasy clay to prevent disease of the skin, which is induced by constant sweating in a hot climate; and I cannot doubt that too great sweating increases skin disease by melting the epithelium and leading to denudation. Knead-

scratching relieves itch and aggravates eczema, unless compensated for by rupture of vesicles or disorgement of infiltration; and why does scratching relieve itching?

¹ Mr. Metcalf informs me that benzoin was first used in this ointment by Erasmus Wilson, who had learned from perfumers that this was their secret for preserving pomades indefinitely. It is the most elegant ointment made, and is also remarkable for keeping sweet for an almost indefinite period. This is probably owing to the chemical composition of benzoin, the formula of which is $C_{15}H_{10}O_2$.

² Dr. White tells me that he had an analogous case in the late discoverer of Redding's salve for the cure of salt rheum. He died at the hospital under his care, the worst case of eczema he had ever known.

³ Itching may often be developed, and the seat of the infiltrated tissue detected, by pressure.

Query. The difference between itching and pain; and why

ing dough, a favorite employment of Southern ladies for promoting delicacy and whiteness of the hands, when a *constant* occupation occasionally terminates in baker's itch.

There are some things in our modes of living which I think are peculiar to the northern parts of this country, and which must tend to excite eczema. In England the usual temperature for a sitting-room is 60° F. In ours 70° F. at least; often much higher. A part of this is undoubtedly due to the greater moisture of the air and the relative dryness of the air in this country, and therefore we require a greater amount of heat for comfort. After making due allowance for this there still remains a large balance against us. In theatres, etc., with the blaze of gas, it is still worse, and with an intolerable atmosphere. Now this ten or more degrees is attended with a *positive loss of vital force*. I mentioned this to one of the members of the board of health, who agreed to the truth of this view, and said that it had never been presented in their reports. That there is no real necessity for so much heat is proved by the fact that when we first go to the sea-side or to sea for two or three days most of us suffer from cold. This soon passes off, and after landing, especially if on this side the water, the heated and close rooms for a while are intolerable.

Our modern furnaces have contributed much to this habit. *A furnace should be confined to the entry*. All other parts of the house should be heated by open fires of wood (the best fuel), coal, or gas. The fact is that the *expense* of ventilation is its greatest enemy. Most of the world are ready to risk health in saving money for dress or amusement. From my own experience I would recommend persons with a tendency to eczema a naked exposure to the air at night before going to bed, and also before dressing in the morning — Franklin's air-bath.

I now come to the last part of this paper, which has stretched out to a length I never anticipated. I wish to say a few words on the oft-disputed question of the constitutional or local origin of eczema. In the number of the JOURNAL for October 23, 1879, Dr. White presents, with his usual ability, his reasons for considering eczema mainly a local disease, and calls for proof to the contrary. Dr. White insists on scientific proof in a case where scientific proof is not possible. The humoral doctrine, though I agree with him in thinking it often, perhaps generally, a mere superstition, has a foundation on fact and observation; and with regard to vicarious diseases, what will Dr. White do with *vicarious menstruation*, probably older than Hippocrates?

Intestinal hæmorrhage with relief in typhoid fever may be mentioned in the same connection; also the more frequent relief from trouble in the head by nose-bleed. I freely admit that the cure of eczema is effected to a great extent by *local* means, but this, as has been before remarked, does not prove the *local origin* of the disease. If you break a link in the chain of causation, though it may seem small, you may break the disease itself.

The study of medicine within the last forty or fifty years has been much benefited by a more scientific method of investigation. Fully admitting this, I would still urge that there is much in the study and practice of medicine which is, and ever must be, dependent on a kind of observation which almost escapes analysis. This is not peculiar to medicine; it enters to a large ex-

tent into the affairs of our daily life. We are constantly making inferences and acting upon them, frequently unconsciously, on which may depend the most important consequences. The difference between the Rothschilds and Barings and common men, in the success which they have obtained and transmitted for so long a time, is mainly dependent on rapid apprehension in their dealings of what is going on in the *minds* of other men.

How absurd it would be to attempt to put this in the form of statistics! What is *manner* and all that it implies? Almost without knowing it we often form our conclusions of character from what a man *does not say*, as well as from what *he does say*, — from his tone of voice, expression, attitude, and gestures. What is all this but symptoms and diagnosis? If the gradual accumulation of the results of the rude observation of thousands of men for thousands of years were obliterated, we should have a heavy task before us, not only in medicine but in most other things in daily life. This I think accounts, in part at least, for what Dr. White calls "a strange vitality."

It is true that the skin has, as Dr. White says, as much right to an independent existence as any other part of the body; but it covers the whole body, and no one doubts that, whether the body sympathizes or not with it, it sympathizes with the body. Why is the skin in cholera covered with cold sweat; and with regard to "striking in," as it is popularly called, does not every physician feel more or less alarm when the eruption suddenly disappears in scarlatina or measles?

I am far from saying that this is the cause of the change for the worse which often accompanies it, but at any rate it shows an intimate relation. This no doubt has been at times grossly exaggerated, but it is real; in the same way as the eruption in the plague must be as much a part of the constitutional disease as the fever. Even the darts of diathesis of the French, which has been so much ridiculed, is founded on the observation of the old physicians that certain families are constitutionally predisposed to certain eruptions.

TANGIBLE CAUSE.

An eczema occurring spontaneously may present identical structural changes with one caused by foreign agency, and yet the cause *may* be from within. In a case of intermittent recurring, after being apparently cured, with an interval of months or even years, with or without an obvious exciting cause that we can trace, if we had not known of the *previous attack*, how absurd it would seem to attribute the present one to something all the time present in the system of a man apparently well!

SCROFULA.

This constitutional agency in producing skin disease I presume all will admit. I do not know why Dr. White passes over it in this connection.

BRAIN AND NERVOUS SYSTEM.

Dr. White admits the sequences of neuralgic pains and disease of the skin, as in herpes zoster. But does not this imply a *close relation*? "Faulty innervation" as a term is objected to, and it no doubt is often loosely used, but it may be a form expressing a fact, and Dr. White *surely* does not wish to be understood *literally* when he questions what it means without some discoverable tissue change.

DIGESTION.

Dr. White urges, and I agree with him, that the influence of food is overrated. With regard to acne, however, I think the influence of diet is very marked. My personal observation, at a time of life when we are very sensitive on the subject, was proof positive to me, as I well recollect. Dr. Jacob Bigelow, the most skeptical of men, told me that he was satisfied by experiment that the popular idea of the influence of rich food was well founded. I understand Dr. White to admit that though he does not object to *good* butter, he cautions patients strongly against *bad*. This I think concedes the principle, and I would ask, Is the red nose of the drunkard a "vulgar error"?

I will only add that I think the difference in the views of Dr. White and myself arises mainly in our different education. His study and practice of chemistry and afterwards of his specialty have both led him so much in the direction of pure science that he naturally inclines to reject all evidence which does not fall within its bounds. The history of Lady Montague's discovery of inoculation, of Jenner's of vaccination, of the itch insect, of ergot, of iodine in its relation to burnt sponge as a remedy for scrofula, and of many others of the greatest value, all point in the same direction.¹

I will conclude this too long paper with a case of my own. On the 16th of March I was consulted by a man, aged forty, from Aroostook County, Maine. He reminded me that nine years ago his wife had been under my care for an affection of the eyes, had recovered, and had continued well. A year ago, he said, he was attacked with disease of the eyes which had recurred from time to time, and his sight was much impaired. He had consulted an eminent specialist in Bangor and another in Portland. He then came to Boston and took the advice of another distinguished specialist, and not satisfied with this went to the Eye Infirmary. I asked him why he came to me. "Because," said he, "you were the only one of the five who asked a single question as to the general health."

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.

BY F. I. KNIGHT, M. D.

EXTERNAL INCISIONS FOR THE REMOVAL OF BENIGN INTRA-LARYNGEAL NEOPLASMS.

Dr. J. SOLIS COHEN² gives illustrations of several of the methods of operating and comments thereon. The importance of restriction of the operation, which Dr. Cohen speaks of, cannot be mentioned too often till surgeons stop making those sweeping incisions from the hyoid bone to the trachea, which unfortunately are still too common. Dr. Cohen says that section of the

¹ It would be well to consider here the popular idea of the influence of prenatal impressions on the mother as the cause of peculiarities in the child. At the time I was a student it was generally accepted that they had no influence, and this, I remember, was the opinion of the late Dr. Walter Channing, then professor of midwifery. The general opinion of scientific men at the present time is that such impressions do have a greater or less influence.

It was contended for many years by naturalists, as opposed to the popular opinion, that the parr were a distinct species of fish, and not, as afterwards acknowledged, undeveloped salmon. The experiments of Mr. Shaw proved that the popular view was the correct one.

Still another popular belief, that has since been proved by scientific experiment, is that the vaccine disease of cattle is really the small-pox.

² Archives of Laryngology, vol. i. No. 2.

cricoid cartilage is to be avoided, if possible, as its division is apt to impair the solidity of the laryngeal skeleton, and is liable, though but rarely, to be followed by necrosis. Section of the thyroid cartilage is likewise to be avoided if other means suffice for ample access to the neoplasm, as the consequent agglutination of the anterior portions of the vocal bands, in cicatrization, cannot be effectually prevented, and the resulting diminution in the length of the vibrating portions of the vocal bands necessarily impairs the quality of the voice.

Small growths, immediately beneath the vocal bands or upon their edges, and inaccessible to intra-laryngeal manœuvres, are not infrequently accessible to direct attack through an incision in the middle crico-thyroid ligament. This operation, the easiest of the series, involves the minimum risk incurred in artificial openings into the air-passage, leaves but an insignificant external cicatrix, and does not engender any impairment of vocal function. Dr. Cohen gives a case in which this restricted operation was performed on a gentleman for the destruction by galvano-cautery of nodules of papilloma beneath the anterior commissure of the glottis and upon the lower surface of the vocal bands.

In regard to section of the thyroid cartilage, Dr. Cohen says that its extreme liability to impair the voice irretrievably should always be borne in mind, and for this reason it may be questionable, in certain cases, especially in children, when the growth is in the upper portion of the larynx, whether the more conservative operation of sub-hyoid pharyngotomy should not be performed in preference. Dr. Cohen, however, farther on gives a case which shows that sub-hyoid pharyngotomy, that is, simple section of the thyro-hyoid membrane, does not always give sufficient room in children for a successful operation. A child, five years old, aphonic from birth, was seen in consultation with Dr. J. H. Packard. A neoplasm was discovered at the anterior commissure of the vocal bands. As it was impossible to have the repeated interviews necessary for a laryngoscopic operation, an external operation was decided upon. In order to avoid injury to the vocal bands, sub-hyoid pharyngotomy was chosen instead of thyrotomy. Dr. Packard performed the operation, but when the epiglottis was drawn out through the wound it was found impossible, either by direct sunlight or reflected light, to illuminate the interior of the larynx beyond a meagre area just below the upper border of the aryteno-epiglottic folds, so that the growth could not be exposed to vision. Attempts were made to remove the growth by forceps, but the opening was too small to admit the passage of both finger and forceps, and the growth could not be distinguished from the supra-arytenoid cartilages without either digital aid or illumination; so the operation was abandoned. [It should be borne in mind that papilloma not unfrequently disappear spontaneously in children, so that it may be better oftentimes not to open the larynx at all, but insert a tracheotomy tube, if necessary to relieve the dyspnoea, and wait, as was strongly urged by Dr. H. K. Oliver some years ago. — REP.]

EXTIRPATION OF THE LARYNX.

Dr. Max Schüller³ gives a very interesting account of this operation. The number of operations known to the author is nineteen, three for sarcoma, fifteen for

³ Billroth and Lücke's Deutsche Chirurgie, No. 37, Stuttgart, 1880.

carcinoma, and one for perichondritis from unknown cause. The three patients operated on for sarcoma not only survived the operation, but have remained free from disease. Of the fifteen from whom the larynx was removed on account of carcinoma, five died of pneumonia and two of exhaustion within two weeks after the operation. Five others died from a return of the disease long after the operation. Two patients (one operated on in September, 1877, by Wegner, and one in July, 1878, by Billroth) were alive, but there had been a recurrence of the disease in the latter; of one case there had been no late intelligence. The recurrence usually took place, not at the seat of the operation, but in the neighboring lymphatic glands. In our present knowledge the prognosis is most favorable in the case of sarcoma. It cannot be denied that the operations so far do not offer much encouragement as to the final result in cases of carcinoma, but we must not forget that we are yet in the infancy of the operation, and that the disease was far advanced in most of the cases subjected to it. If extirpation is practiced earlier, as soon as the diagnosis is assured, the prognosis will become more favorable. Schüller considers that complete removal of the larynx is indicated only in the case of malignant growth. It has been proposed also for organic stricture from inflammatory processes, in order to substitute a larynx which would perform its function for one which would not, but laryngotomy, with partial resection, suffices for these cases, and is far less dangerous; moreover, the preservation of a part of the laryngeal walls renders the fitting of an artificial larynx easier. Schüller gives an excellent description of the proper method of operating.

In Vol. I., No. 1, of the *Archives of Laryngology* is a very full account of the first extirpation of the larynx done in this country, by the operator, Dr. Friedrich Lange, of New York.

ADHESIONS OF THE VOCAL CORDS AFTER DIPHTHERIA.

Dr. Jules Boeckel¹ showed, at a recent meeting of the Medical Society of Strasburg, the larynx of a child on whom tracheotomy had been performed for diphtheria. The patient recovered, but it was impossible to withdraw the canula, suffocation being threatened on every attempt to do so. Some months later the child died of scarlatina. The pathological specimen showed that there was an adhesion of the vocal cords in their entire extent, except at one point, where an opening remained scarcely admitting the point of a probe. Dr. Boeckel thought that the union of the vocal cords was due to the agglutination of the abraded surfaces after the elimination of the pseudo-membranes.

BURSAL CYSTS OF THE THYROID CARTILAGE.

Dr. J. W. Robertson² reports a case of cystic degeneration of the thyroid bursæ. The tumor was flat, and covered the whole surface of the subcutaneous portion of the thyroid cartilage, extending backwards under the muscles on the right side, and pressing the larynx backward and toward the left. It was about the size of a large walnut, oblong and flattened in shape, and its fluid contents could be easily diagnosed. The larynx, except in position, was apparently healthy. The lungs were emphysematous, with a

small portion of consolidated tissue in upper part of right lung. It being found impossible to extirpate the cyst entire, it being closely adherent to the anterior surface of the cartilage, the sac was simply cut away with scissors, and the internal wall of the cyst destroyed. The hyoid bursa, which was similarly affected, was eradicated in the same manner. The cysts were filled with a thick, glairy fluid, similar to that of a ranula. The wound healed slowly by granulation. A few applications of tincture of iodine to the granulations beneath the loose skin soon dried up a peculiar serous discharge, which lasted some time after the operation. In a week's time the larynx had resumed its proper position, deglutition and respiration were normal, and the voice improved, but still hoarse from catarrh.

LARYNGOTOMIA SUBHYOIDEA VERA, SEU SUBEPIGLOTTICA.

Dr. Carl Langenbuch³ calls attention to the fact, stated by Langenbeck, that the operation commonly called subhyoid laryngotomy is really a pharyngotomy, the opening being made above the epiglottis. Dr. Langenbuch then gives the details of an operation by himself, in which the opening was made under the epiglottis. The patient had a small polyp at the anterior commissure of the vocal cords. A transverse incision of the skin was made, the muscles were separated from the hyoid bone, the hyothyroid membrane was divided transversely close to the upper edge of the thyroid cartilage, and a median incision was made through the ligamentous tissue of the superior thyroid notch and the upper third of the thyroid cartilage (the latter was perhaps unnecessary). A transverse section was then made of the root of the epiglottis. The slight hemorrhage was easily checked. The larynx was now drawn downward and outward by means of two strong hooks (one on each side), and a good inspection of the interior of the larynx afforded, and the growth easily removed by the scissors. Communication with the external air continued only two days, and the voice, which had been hoarse previously for five years, became normal.

Roser subsequently called Langenbuch's attention to the fact that he (Roser) had studied this operation experimentally on animals in 1851, an account of which was published in Shuppert's thesis in that year.

A NEW SUBCUTANEOUS METHOD FOR THE REMOVAL OF NEOPLASMS IN THE LARYNX.

Under this title Professor Rossbach⁴ describes a case of growth on the anterior third of one of the vocal cords, which he removed by means of a narrow knife introduced through the lamina mediana of the thyroid cartilage, the subsequent movements of the knife being guided by using the laryngoscopic mirror. Rossbach thinks the method may become generally useful in laryngeal operations. This method of operating has been used before by Eysell, of Halle.

ELECTRIC LIGHT FOR LARYNGOSCOPY AND RHINOSCOPY.

Dr. A. Wellington Adams,⁵ of Colorado Springs, claims priority in the application of electricity to laryngoscopy and rhinoscopy, and describes an apparatus

¹ London Lancet, December 27, 1879.

² Toledo Medical and Surgical Journal, October, 1879.

³ Berl. klin. Woch., No. 5, 1880.

⁴ Berl. klin. Woch., No. 5, 1880.

⁵ Medical Gazette, May 22, 1880.

which seems very convenient for the purpose. The light is arranged on the stalk of the laryngeal mirror, and several advantages are claimed for it over the "electrical polyscope" of M. Trouve.

APHONIA SPASTICA.

Dr. M. A. Fritsche¹ communicates six cases of this affection, first described and named by Schnitzler in 1875. It consists in cramp of the muscular apparatus of the larynx on attempted phonation, an affection analogous to writer's cramp. There is usually total loss of voice. The great effort made by the patient to produce sound is noticeable, but it "sticks in his throat." On laryngoscopic examination the vocal cords are seen to be pressed tightly together, not presenting the usual elliptical opening, but on forcible effort sufficient air escapes through the glottis posterior to the vocal processes to produce an interrupted, convulsive whisper. In the lighter form of the affection there is only a momentary spasmodic closure, limited to the anterior part of the glottis. For treatment electricity, especially the constant current, is of the most value. The prognosis in acute cases is favorable, but in chronic ones less so.

FUNCTIONAL SPASM OF THE LARYNX.

Professor C. Gerhardt² under this title relates a case of the same affection, which bears a closer resemblance to writer's cramp from the fact that it came on only when the patient pronounced certain words or syllables. Professor Gerhardt has previously reported the case of a flute player who suffered from a spasmodic affection of the larynx whenever he produced certain notes.

EXTREME STENOSIS OF THE PHARYNX.

Dr. T. Gilbert Smith and Mr. W. J. Walsham³ report a case of extreme stenosis of the lower pharynx resulting from syphilis. The tongue could not be protruded beyond the teeth. The right posterior pillar of the fauces was drawn backwards, and was adherent to the posterior wall of the pharynx. The uvula and a considerable portion of the soft palate had disappeared, leaving a clean semicircular border to the portion that remained. On laryngoscopic examination the epiglottis and vocal cords could not be seen, but an aperture one eighth of an inch in diameter was visible at the bottom of a funnel-shaped depression to the left of the middle line, on a level with the epiglottis. This was separated by a thick cicatricial band from another and deeper depression to the right, which terminated in a cul-de-sac containing pus. This small aperture was the only entrance to the larynx and œsophagus. Dilatation was not effectual until several cicatricial bands had been divided, when dilatation was resumed by means of the finger and œsophageal bougie. When the patient left the hospital the aperture measured three quarters of an inch in diameter. She was seen nine months after, and the aperture had not contracted in the least. In regard to the treatment the following suggestions are made: (1.) Tracheotomy. (2.) Division of cicatrices with a guarded knife. (3.) Several small notches are preferable to a deep incision, and when possible the parts should be divided from above downwards, so as to allow a full view of the tis-

suess divided. (4.) The aperture should be enlarged in a direction so as to allow the passage of liquid food clear of the entrance to the larynx.

ANGIOMA OF THE LARYNX.

Dr. O. Heinze⁴ reports a case of this rare affection. The tumor projected from the right ventricle, and was removed by means of the simple wire loop followed by galvano-cautery. Profuse hæmorrhage followed the use of the simple loop, and Heinze warns us that galvano-cautery should always be used in such cases to avoid possible danger from hæmorrhage. The piece removed lost its black color and became bluish-gray, and showed in section a fine spongy structure, and under the microscope a net-work of connective tissue, with blood in the interstices and numerous blood-vessels. Heinze was able to find only five cases previously reported.

TREATMENT OF NASO-PHARYNGEAL POLYPI.⁵

At a meeting of the Société de Chirurgie, Verneuil showed a patient on whom he had divided the soft palate, and had then cut away a portion of the tumor with an écraseur. He then applied cauterization of chromic acid every two or three days. The polypus gradually softened and atrophied. Duplay showed a patient who had been treated for the same affection with injections of chloride of zinc. Rochard mentioned a case in which the soft palate had been divided, the projecting portions of the tumor cut away, and the remainder removed by injections of chloride of zinc. Auger deprecated the removal of polypi by radical operations, and recommended injections of perchloride of iron.

(To be concluded.)

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL: SKIN GRAFTING.

REPORTED BY DUDLEY F. ALLEN, M. D.

A METHOD of skin grafting which has been used in the Massachusetts General Hospital during the present year has produced remarkable results. Essentially the same plan has been pursued in various cases, but it is sufficiently illustrated by a single case.

A woman eight months pregnant was brought to the hospital, entering the ward of Dr. Charles B. Porter. She was in a low condition and suffered from constant diarrhoea. She had borne five children and had three miscarriages in rapid succession. Her right leg, with the exception of one half inch on the front, was girdled by a gangrenous phlebitis, six inches in width, extending from just below the malleoli up the leg. The foot was largely swollen and cyanosed. Her legs and external genitals were marked with varicose veins. She had considerable fever and could retain almost no food. Her pulse was quick and feeble. A consultation was called to decide upon the advisability of either inducing premature labor or amputating the leg, as it seemed impossible that the woman should recover, saving the leg and safely delivering the child. The patient's con-

¹ Berl. klin. Woch., Nos. 15 and 16, 1880.

² Archives of Laryngology, vol. i. No. 2.

³ British Medical Journal, April 17, 1880.

⁴ Archives of Laryngology, vol. i. No. 2.

⁵ Bull. gén. de Thérapie, December, 1879. London Medical Record, April, 1880.

dition was so poor that it was feared that interference of any sort would prove fatal, and preparations were made for Cæsarian section, should it prove necessary. The leg was now placed daily in a bath of one to forty carbolic acid, and allowed to soak for five minutes, and all the slough was pulled away. It was then washed in one to twenty carbolic, and finally rinsed off with pure water. A deposit, gray, thick, friable, and diphtheritic in appearance formed several times on the ulcer, but at length ceased to reappear, and the ulcer healed gradually, decreasing, perhaps, one fourth in area before delivery.

A month after entrance the mother was delivered of a healthy child. When the labor pains began, by the previous direction of the surgeon, the mother was bathed from head to foot with carbolic water, the leg was done up in a thorough Lister dressing, and the patient was carried into another room, that all danger of septic infection from the leg, which had been gangrenous, might be avoided. A week later the mother's condition was excellent. The Lister dressing was removed, and the ulcer was found healthy and granulating. The healthy state of the ulcer on the removal of the Lister dressing suggested the latter's renewal as a good method of treatment. At this time three hundred and thirty-five grafts were placed upon the surface of the ulcer.

The method of grafting may be of interest. The surface of the ulcer was rinsed off with one to forty carbolic. Grafts were then taken from the healthy skin, above the ulcer and below the knee. Each piece of skin was secured by sticking a very sharp cambric needle into the skin, lifting it a little, and cutting the piece off with a sharp scalpel, a method which was seen suggested some time since in a Philadelphia journal, but by whom we have now forgotten. The piece of skin was placed immediately upon the surface of the ulcer, care being taken that the cut surface should be in intimate contact with the granulating surface. The grafts were laid upon the ulcer in straight lines, being about the size of a pin's head, and separated from each other not more than one eighth to one sixth of an inch in the lines, though the lines themselves were separated from each other about one fourth of an inch. These lines of grafts were held in place by a piece of gold-beater's skin which was cut from a condom, laid upon them, and fastened to the sound skin at either extremity by collodion. The carbolic spray was then turned upon the leg for from two to three minutes, and a regular Lister dressing was applied. The surface from which the grafts were removed did not have a diameter greater than two and a half inches.

Five days later the Lister dressing was removed. It seemed that nearly every graft had taken and was growing, and the whole surface of the ulcer was nearly covered with epidermis. By this time the surface from which the grafts were taken was entirely healed, and a little later was scarcely visible. Thirteen days after the grafting the Lister dressing was omitted, only three dressings having been applied. At this time the whole ulcer was healed, with the exception of two small points, whose combined area was less than one square inch. About a week later the patient left the hospital, in excellent condition, with only one opening in the ulcer one third of an inch in diameter. There are several points in the practice of grafting which are well worth consideration:—

(1.) The surface to be grafted must be in healthy condition, else the grafts will not take.

(2.) The general condition of the patient must receive careful attention. Grafts that have become attached and look well will at times wholly disappear if the patient suffers from disordered digestion for even one or two days, or from the fever accompanying the collection of pus in parts that have no immediate connection with the grafts.

(3.) The grafts may be lifted with a sharp needle and cut off with either scissors or scalpel. The scissors are perhaps easier to use, and with them scarcely a drop of blood is drawn. The disadvantage is, however, that the scissors are slightly more painful than the scalpel; they curl up the grafts, so that it is less easy to lay them flat upon the granulations than if cut with a knife; and although with the scalpel there is bleeding the blood is not squeezed from the grafts as with the scissors, and the vessels are not so thoroughly closed. We have placed side by side grafts taken in both ways, and though we could not fully demonstrate that the grafts taken with the scalpel are the most sure to grow, we are decidedly of that opinion.

(4.) To fasten the grafts firmly in place is of greatest importance. Various methods have been practiced. The problem is to fasten the grafts firmly with something that will not disturb either grafts or granulations when it is removed; and it is also desirable to see the grafts, in order to place each successive line more accurately. Gold-beater's skin fulfills every indication. Ordinary adhesive plaster retains the pus which floats the grafts off from the granulations. Silk gauze holds the grafts perfectly, and allows the pus to escape through it and be absorbed by the dressings. The difficulty is that after about two days the granulations penetrate it, and if it is left beyond that time it is removed with difficulty, tearing the granulations and pulling off with the granulations more or less grafts, and causing bleeding. Gold-beater's skin, as taken from a condom and placed upon the grafts, holds them perfectly, so there is no danger of their being removed during the remainder of the dressing; it is transparent, and makes it possible to see the grafts; it dissolves in a little more than twenty-four hours, so that there is nothing to be removed. In short, in the many cases in which it has been used it has proved a perfect success.

(5.) The Lister dressing is desirable when it can be applied, though this is not easy in all locations. Its desirability depends largely, we suspect, upon the fact that it makes it possible to leave the grafts undisturbed for a long time without the wound becoming foul or septic. We have not inserted the grafts under the spray, but simply played the spray upon the wound for a moment before the application of the dressings, to disinfect it, and continued it through the dressing. The piece of protection between the surface of the wound and the gauze dressing should be only sufficient to cover the wound; else it will confine the pus, and endanger the floating off of the grafts by the pus which is secreted.

The essential details in skin grafting would then seem to be to have the patient and the surface to be grafted in good condition; to place the grafts, full of blood and right side up, upon the granulations; to hold them securely in their places; and to dress them by some method which does not necessitate frequent change.

—Thirty of the beds of Charing Cross Hospital (London) have been closed for want of funds.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY
FOR MEDICAL OBSERVATION.

A. T. CABOT, SECRETARY.

MAY 3, 1880. DR. HASKET DERBY read a paper upon The Use of the Artificial Leech in Ophthalmic Surgery. The reader urged that this method of abstracting blood was particularly applicable in cases of choroiditis, in which it is important that the blood shall be drawn rapidly.

The heurteloup may properly be used not only in the acute inflammatory stage, but also later, when the disease has assumed a more chronic form. The leech should be applied to the temple, and at least two fluid ounces of blood rapidly drawn. This is best done in the evening, so that the night's rest shall follow the operation, and the patient should spend the following day in a quiet, dark room. These applications should be made about once a week for five or six weeks, general treatment with corrosive sublimate, etc., being also used during this time.

This treatment Dr. Derby illustrated by the report of several cases, in which a marked improvement in vision had followed each application of the artificial leech. In ophthalmia and iritis, where a slow depletion is proper, ordinary leeches fulfill the indications.

DR. WADSWORTH thought the treatment by rest and exclusion of light of great value in these cases. He had seen sudden improvement in a case of choroiditis where no local treatment had been used, and such cases would give rise to a doubt as to the importance of the part played by local depletion. The scars resulting from the use of the artificial leech he had found at times quite disfiguring.

DR. DERBY said that he was in the habit of shaving a small surface on the temple and applying the heurteloup there, where the subsequent growth of the hair would conceal the scar.

DR. WEBBER exhibited some sections of the spinal cord from a case of myelitis reported by him in his paper before the society, December 15, 1879. These showed very well the enlargement of the axis cylinders with the fusiform swellings along them; also the considerable dilatation of the blood-vessels. In one section distinct vacuoles in the axis cylinders were to be seen.

DR. MARION reported a case of saccharine diabetes as follows: "W. S., a young man sixteen years of age, was first seen by me December 1, 1879. He was of healthy parentage, in good circumstances, and of correct habits. He was well developed, and felt well in every respect, except for the fact that for the week previous he had passed a large amount of urine, had suffered unusually from thirst, and had had an inordinate appetite. Upon examination the urine was found of a pale straw color; acid reaction; specific gravity, 1043. Sugar was present in large amount.

"The following chart shows the clinical features of the case for several weeks:—

	Pulse.	Temperature (F.).	Urine.	Specific Gravity.
Dec. 19, 1879.	46	96.4°	12 pts.	1043
" 21,	72	96.8°	11	1040
" 25,	80	98.6°	14	1037
Jan. 3, 1880.	92	96.0°	11	1043
" 5,	80	98.2°	11	1035
" 8,	72		9	1033
" 12,	84		10	1036
Feb. 2,	84	98.4°	10	1035

"About the 1st of February he fell into the hands of another physician, more sanguine than I as to his chance of recovery. Although said to be improving, he gradually lost flesh and strength.

"March 23d, I was called about ten in the evening to see him, in the absence of his physician, who lived in the city proper. He was suffering somewhat from pain in the right iliac region, which soon passed off, or was no longer noticed.

"Respiration was hurried and hollow. The chest was unusually resonant. Examination of the heart was unsatisfactory on account of the labored respiration. He became unconscious about four A. M., and died at eight.

"Autopsy, thirty-two hours after death. Body well developed, though emaciated; rigor mortis very well marked; face and extremities more or less covered with a pustular eruption, accompanied here and there by hæmorrhagic crusts. A creamy fluid issued from the veins over the sternum; this was also noticed in the mesentery and in other parts of the body. There was almost no subcutaneous fat.

"Upon removal of the sternum the heart seemed very prominent. The pericardium contained a small amount of fluid. The cavities of the heart were dilated and their walls thinned. The right side was much distended, and was filled with a creamy, curd-like substance; that in the auricle being more friable than that in the ventricle. The right pulmonary artery contained a clot resembling the spinal cord both in color and in consistence. The left side of the heart was empty. The pleuræ were mottled. The lungs were healthy, except the middle and lower lobes of the right lung, which were collapsed. The pleural cavities contained a small amount of fluid, as did also the peritoneal cavity. The spleen was normal. The kidneys were slightly enlarged and hyperæmic. The liver was slightly fatty, and the blood from its cut surface was of a bright brick-red color. The stomach was dilated and the intestines were healthy, although all the mucous membranes were pale. Microscopic examination of the clot and the creamy liquid showed finely emulsified fat."

DR. MARION thought the case should be characterized as one of lipæmia and fat embolism.

[We are requested by Dr. Marion, the attending physician, to state that this case is the one reported in the JOURNAL for June 17th by Dr. Marshall L. Brown, who was present at the autopsy. — ED.]

MAY 17, 1880. DR. DOR reported a case of Latent Peritoneal Effusion. The patient, a girl of twenty-two, after wetting her feet, had a cessation of her catamenia, which were in progress at the time. Two weeks later she noticed an increasing enlargement of her abdomen, which was soon accompanied by vomiting and by slight soreness in the umbilical region. She continued at her work, and only finally gave up in consequence of increasing weakness. Soon after the abdominal distention reached its height a pleuritic effusion in the left side commenced in a similarly insidious manner, the only symptoms being lividity of the cheeks and increased frequency of respiration.

The abdominal effusion, which, when at its height, reached one inch above the umbilicus in the erect posture, began to subside three weeks after its first appearance, and had vanished at the end of two months. As the pleuritic effusion was slowly disappearing a pneumonia, evidenced by dullness and fine crepitant râles, showed itself at the base of the opposite side. This, however, rapidly cleared up, and the patient, steadily

improving, was discharged from the hospital, well, nineteen weeks from the commencement of her illness. The catamenia did not return while under observation.

The treatment consisted of supporting measures combined with diuretics and hydragogue cathartics. The reader considered the case one of subacute peritonitis, commencing in the neighborhood of the uterus, and consequent upon congestion of the same.

Several members of the society spoke of cases of peritonitis depending on various causes, some with and some without an effusion, in which the course had been similarly devoid of symptoms.

DR. C. E. STEDMAN said that he thought cases like that reported not very infrequent in anæmic girls. He mentioned briefly such a case, in which anasarca and double pleuritic and peritoneal effusions existed, and which recovered under a tonic treatment with change of air.

DR. F. C. SHATTUCK recalled the fact that Dr. J. B. S. Jackson had noticed the frequent coincidence of pleural and peritoneal effusions.

THE FIFTY-NINTH SEMI-ANNUAL MEETING OF THE WHITE MOUNTAINS MEDICAL SOCIETY.

THE meeting was held at Thayer's Hotel, Littleton, N. H., July 21st and 22d, and was called to order by the president, Dr. C. G. Adams, of Island Pond, Vt. In his address the president mentioned some of the good work already performed by the society, and urged each member to labor earnestly for the future welfare and honor of the same. The address was well received, and was the key-note to the proceedings. The meeting was fully attended, was earnest and profitable.

Dr. E. Mitchell, Lancaster, N. H., then addressed the meeting upon Bright's disease. He illustrated some of the prominent characteristics of the disease by recent cases in his practice. This address was followed by a general discussion upon disease of the kidney and the significance of albuminous urine.

Dr. S. L. Wiswell, Cabot, Vt., read a paper upon Treatment of Curvatures of the Spine by the Plaster-of-Paris Jacket. Seven cases were reported; cure followed treatment in all the cases; it was claimed that all these cases could and should be treated by our country physicians; that the fixtures could be furnished for about six dollars, and that some lighter and more rapidly hardening material would yet supplant the plaster of Paris, though that was the best now in use.

Dr. Peck, of New York city, read a paper on Glaucoma, illustrating his subject by diagrams and recently prepared specimens. Remarks were made upon the same topic by Dr. Spaulding, of Portland, Me. These gentlemen, after discussing the pathology of glaucoma, kindly pointed out some of the more prominent symptoms whereby it could be recognized by the general practitioner, such as dilated pupil, hardness of eyeball, blue color. Dr. Peck had excellent results from the use of eserine.

Dr. Watson, of Groveton Junction, N. H., reported cases of diphtheria, presenting a specimen of false membrane recently thrown off from the trachea, which reached nearly an inch below the bifurcation into the bronchia. The patient, the wife of a physician, soon died.

Reports on epidemics were made. Scarlatina, diphtheria, and measles have occurred in various localities in Northern New Hampshire and Vermont, but no

disease has prevailed over any large extent of this part of the country.

Several important cases were presented for diagnosis and treatment, one of some obscure disease of the brain, one of traumatic inflammation of the knee-joint, and one of malignant disease of the liver.

A case of congenital entropion of each lower eyelid in a boy ten years of age was brought before the society. Dr. Spaulding kindly consented to perform the operation usually prescribed for such cases. The operation was very neatly and successfully done.

Four new members were received, and two, Drs. Spaulding and Peck, were made honorary members.
W. C.

Recent Literature.

Diseases of Women. By LAWSON TAIT, F. R. C. S. Second Edition. New York: William Wood & Co. 1879.

We are glad to see the second edition of so good a work as the one under consideration; and the author may justly feel complimented at the warm reception it has generally received. The subject of gynecology is here treated according to the anatomical relation of the parts, which necessarily divides the book into most unequal sections. The work contains but few cuts, as the author has found that illustrations of pathological appearances rarely convey any intelligible idea of the facts except in the form of expensive lithographs, which would greatly enhance the cost of the book.

In the sections on the Mons Veneris and the Vulva, more space is devoted to the consideration of the eruptive and parasitic diseases of those parts than is usually the case in much larger and more extended works on the same general subject. The author also discusses the malformations of the vulva and the appearances of the hymen in its relations to medico-legal cases. He takes it for granted, evidently, that his readers are familiar with the details of the various gynecological operations, for, excepting ovariectomy, he refers to but very few of them, and then most briefly. With some exceptions, the treatment advised is fairly open to the criticism that it is not up to the recognized standard of present gynecologists, — certainly not those in America. We are glad to see the author denounce in strong terms the practice of applying solid nitrate of silver to the cervix for so-called "ulcerations of the womb," recommending instead mild applications, although he makes no reference to operative interference, which so many gynecologists have found a more speedy and effectual method of overcoming the trouble when dependent upon lacerations of the cervix.

The section on the Fallopian Tubes and Fimbriae, including, as it does, extra-uterine pregnancy, is exceedingly valuable and instructive, and second to none on this important subject, save Dr. Parry's work. The section on Diseases of the Ovary, comprising about one third of the volume, is an enlargement of the author's Hastings Prize Essay of 1873, and withal a most scholarly production. The book is full throughout of careful thought and rich experience; and these merits, together with the wise consideration of many matters of grave consequence, which by most gynecological writers are either briefly treated or passed over entirely, render it an essential addition to medical literature.

Medical and Surgical Journal.

THURSDAY, AUGUST 5, 1880.

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GENERAL HYGIENE AND SCHOOL HYGIENE IN WISCONSIN.¹

THE report of the Wisconsin Board of Health for the year 1879 presents increasing evidence, as is shown by the secretary, that the work of the board is reaching the people for whose benefit it was established. It is manifested in the numerous communications received, in which the advice and help of the board are asked in sanitary matters affecting the rights and duties of individuals or communities; in the requests from local boards of health for instruction on points arising in the discharge of their legitimate duties; in the appeals from teachers for advice in matters affecting the hygienic surroundings of their pupils; in the demand for inspection of nuisances and for the suggestion of remedies; in the reliance which is shown that, through the action of the board, an efficient control may be brought to bear upon adulteration and fraud in articles of food and commerce.

The vital statistics of Wisconsin are as yet of little value, the record of marriages, births, and deaths as collected under existing laws being too imperfect to permit any accurate conclusions to be drawn from them. Arrangements, however, were made to collect such statistics in connection with the late national decennial census, and the board recommends that the State coöperate with the general government in securing the compilation of such statistics at the intermediate quinquennial periods.

The most striking feature of this Wisconsin report is the large proportion of space devoted to the discussion of school hygiene and the sanitary arrangements of school-buildings. No less than three out of seven papers treat of these subjects, the importance of which is evidently fully appreciated, and the writers are clearly determined that their towns shall not remain behind older communities in these matters. It is apparent that the need exists for a thorough reform in many essential respects, but the appreciation and announcement of the fact is already a long step toward securing the requisite remedies. A special correspondent writes concerning the schools of his own county as follows:—

"The sites of many school-houses are unwisely selected, and during wet seasons are very unhealthy. Many cases of illness can be traced to them. There are some good buildings, but they are uncomfortable in arrangement and not ventilated. I venture the statement that not a single school in this county [one

¹ Fourth Annual Report of the State Board of Health of the State of Wisconsin. 1879.

of the best in the State], excepting, perhaps, those of the cities and larger villages, is properly ventilated, can be perfectly heated, or has a sufficiency of cubic space for each pupil. Their feet freeze while their brains are heated. The furniture is universally unsanitary; the seats are too high or too low, slant too far forward or too far back, and the same is true of the desks.

"The light is effectually shut out of some school-buildings; to my knowledge, there are three school-houses within a radius of five miles, each of which has a large attendance, and each of which has just three windows. These windows contain just nine square feet of glass each, giving a window surface of twenty-seven square feet to a floor surface of six hundred square feet [*a proportion of one to twenty-two*!]. Place a plant in such a room away from the sunlight, and it becomes puny and faded. Children cooped up in such rooms become apathetic, myopic, and frequently sick. Who has not heard complaints of headache, languor, malaise, from pupils in such rooms? Give them better air and more light, and these complaints will disappear.

"Not only are such buildings Black Holes, so far as light is concerned, but they are damp as well. Some stand only a few inches above the ground; others have the sills directly on the ground; and in others still a portion of the building is planted into a side hill, or banked up with earth to shut out any air which might otherwise stray under the floor to dry and thus prevent the decay of the timbers. Who will guarantee that, when the room is heated, the floor shall not warp and spring? Let this take place, and at once the evil odors of putrescence are poured in upon the already exhausted, overtaxed, and unstrung pupils. Raise a plank from one of these ground-floors, and note the terribly offensive and dangerous effluvium which salutes the nose! Some of our country schools are little better than pest-houses. Take one, for example, which measures twenty by thirty feet on the floor, and is eight feet high—not an unusual size; it contains four thousand eight hundred cubic feet, and into it are put, say, forty pupils; each pupil will have a breathing space of one hundred and twenty cubic feet (no allowance being made for the space occupied by furniture, stove, etc.), and in cold weather the air will be changed three times in the course of the day, that is, during the recesses and at noon. In addition to all this, the thermometer, if there were any, would mark from 90° upward, instead of 65° or thereabouts. Is it any wonder that pupils are stupid, tired, sick with headache and similar ailments?

"The picture is a sad one, but it is drawn from actual experience and observation. Remodel the school-rooms, and let fresh air circulate in and under and all around the building. Let education be more gradual, and then there will come from our school-houses men and women not less well educated, and better fitted to do the work and bear the burdens of life."

In a paper by Dr. J. T. Reeve, entitled *Our Public Schools in their Relations to the Health of Pupils*, which was prepared in response to a request that he

make an investigation into the extent to which hygienic studies are pursued in the public schools, with suggestions thereon, the writer shows that such studies are almost wholly unknown in the common schools, and that no knowledge of physiology or hygiene, either physical or mental, is considered essential in the teacher. The questions of school age and the capacity of young children are also dealt with, and liberal extracts are given from the opinions of prominent teachers in the State, all of which go to establish the fact that children are harmed rather than benefited by admission to the public school at the minimum age now sanctioned by law.

This paper next discusses the number of studies pursued and the amount of work required by them, together with the circumstances and health conditions under which that work is being performed, and maintains that injury is done to our children by the nature of the tasks imposed, and by the unhygienic condition of the buildings in which the tasks are to be wrought out and their surroundings. The writer enters a plea that physiology and hygiene may have a larger place in our educational systems, and points out many ways in which the health conditions of students may be improved. He insists that teachers should be sanitary students, and that they should recognize more clearly than they have hitherto done the composite nature of childhood, and that mental and physical culture must be coördinated if the child is to arrive at efficient manhood or womanhood.

The chairman of the committee on the inspection of public buildings presents a paper giving a report of the sanitary conditions of the normal school buildings of the State, in which existing defects and the remedies therefor are pointed out. Professor Chittenden contributes, under the head of Our School-Houses, still another article, based upon several hundred reports upon the actual condition of as many school-buildings in different parts of Wisconsin, in which material worthy of careful consideration is presented. The information is arranged under the following heads: Sites, School Yards, Drainage, Cellars and Air Spaces, Height of Buildings, Ventilation, Heating Apparatus, Arrangement of Light, School Furniture, Hat and Cloak Rooms, Out-Door Accommodations, Water Supply, and Means of Preventing the Spread of Contagious Diseases through the Medium of the Public Schools. These papers must prove of immense service in Wisconsin, and they might be read with profit in Massachusetts, especially by some persons in authority.

An account by a special correspondent, Dr. Schweichler, of an epidemic outbreak of typhoid fever at Port Washington, with extracts from other correspondence, closes a useful, interesting, and valuable report. As the boards of health in Wisconsin and other Western States become older and still more trained to their work it is perhaps permissible to believe that their people and governments will extend to them, in an ever-increasing degree, that confidence, liberality, and cordial coöperation, without which their highest efficiency and most beneficial influence must necessarily be greatly curtailed.

MEDICAL NOTES.

— The board of managers of the Boston City Hospital have purchased 30,000 feet of land from the Water Power Company at a cost of one dollar per foot, as a site for their new hospital building.

— The wife and child of Frank Bugbee, M. D., of Lancaster, N. H., have just died from malignant diphtheria. Dr. Bugbee is a prominent member of the White Mountains Medical Society.

— Cæsarean section has very recently been performed in the town of Whitefield, Coos County, N. H. The full particulars of the case will be prepared for the JOURNAL.

— The Thirtieth Annual Report of the Indiana State Medical Society contains several papers of interest. The address of the president, Dr. J. R. Weist, of Richmond, is a happy statement of the problems with which preventive medicine is now occupied, and gives a striking picture of the terrible ravages of disease before sanitary science restrained its progress. A noticeable paper is that of Dr. W. S. Haywood, M. D., of Indianapolis, on Human Longevity, in which he shows that there are no authentic cases of individuals exceeding an age of one hundred and three years.

— The Medical and Chirurgical Faculty of the State of Maryland issues its Eighty-Second Annual Report. The Inaugural Address is by Professor S. C. Chew, on Medicine in the Past and in the Future. The annual address was delivered by Dr. J. W. Mallet. There are a number of reports of sections, an article on the sphygmograph, by Dr. A. B. Arnold, and some interesting cases of tumors of the jaw, by Dr. L. McLean Tiffany.

— The Proceedings of the Connecticut Medical Society at its eighty-ninth annual meeting are to be specially commended as containing a number of very elaborate and carefully prepared articles. The plan of establishing reports on matters of professional interest in the various counties does not seem to have worked well, but few satisfactory reports having been received. Drs. Carmall and Wordin have two excellent "eye" papers, quite intelligible to the general practitioner. Dr. Stearns, of Hartford, contributes a paper on The Insane Diathesis; Dr. Foster, of New Haven, an essay on The Hereditary Transmission of Syphilis. We should say that this volume was quite above the average of annual society reports. It is most carefully and neatly edited by Dr. C. W. Chamberlain, of Hartford, the secretary.

— The *North American Review* for August has articles on the following subjects: Ruined Cities of Central America, by the Editor; The Law of Newspaper Libel, by John Proffatt; Nullity of the Emancipation Edict, by Richard H. Dana; The Census Laws, by Charles F. Johnson; Principles of Taxation, by Prof. Simon Newcomb; Prince Bismarck as a Friend of America, concluded, by Moritz Busch; Recent Literature, by Chas. T. Congdon.

— The *Lancet* says that a chair of vegetable physiology has been established at Paris. The first lecture has just been delivered by M. Debairan at the Museum d'Histoire naturelle.

— In the *Obstetrical Journal* Dr. B. S. Schultz, of Jena, gives the Indications for, and the Methods of, Dilatation of the Uterus. The uterus may be dilated (1) for the purposes of diagnosis; (2) to give room for the use of instruments or medications; (3) to give free passage to menstrual blood, catarrhal secretions, or semen. From incisions reaching up to the inner os uteri there is risk of bleeding and of secondary metritis and parametritis, and dilatation by sponge tents is open to the same and even greater objections. These risks may be diminished, without detracting from the benefit following, by (1) dilating with laminaria tents preparatory to performing the high bilateral incisions; by this method the uterus can be emptied of stagnant secretions and (by washing it out with a two per cent. solution of carbolic acid) disinfected, by which means the risk of infection from the freshly-cut surfaces is diminished, and an incision confined to the seat of stenosis can be made. (2.) The cervical canal, in the same manner, be efficiently opened up, after the use of laminaria, by a blunt dilator. The author gives the latter method the preference, and has constructed a dilator, working in the sagittal direction, with which he operates either in the knee-elbow or in the lateral position, using strict antiseptic precautions, and washing out the uterus. (3.) In dilatation with expanding agents, antiseptic precautions should be observed before, during, and after the operation; from this point of view laminaria tents are the best. Out of more than a thousand cases the author has seen parametritis only five times, and in every one of these some neglect in the application of the antiseptic method was discovered. If during the use of laminaria the temperature rises above 38° (100.5° F.) the operation should be discontinued. The author considers that the hurtfulness of stagnant catarrhal secretions is not sufficiently appreciated.

— Under the title, Another Death from Chloroform, the *Canada Medical and Surgical Journal* reports the following: A case of death from inhalation of chloroform occurred at the City Hospital, Hamilton, Ont., on the 3d of June last. The unfortunate individual was a woman who had been admitted for the treatment of mammary abscess. The anæsthetic used was a mixture of one part of spirits of turpentine and eight parts of chloroform. The patient had already, a very short time previously, been anæsthetized for the purpose of incising the breast, and although a similar agent (but containing somewhat more turpentine) was made use of no bad effects were observed. On this occasion, however, after inhaling for a few minutes only the quantity first administered, there occurred sudden spasm, pallor, difficulty of breathing, and cessation of pulse. Every effort was instantly made and persisted in by Dr. Kittson, the attending physician, and Dr. Mills, the resident surgeon, to restore animation, but in vain. The post-mortem examination failed to reveal any organic lesion, and the following verdict was rendered by the coroner's jury: "That Catharine Donahue came to her death on the 3d of June, 1880, from chloroform administered in the Hamilton City Hospital, and it appears to this

jury that the chloroform was administered in a proper manner, and her death could not have been foreseen, and no blame can be attached to any one."

— The reports that come to us from the other side on the use of Chian turpentine in cancer are not all favorable. Mr. Lawson Tait reports that at the Women's Hospital they have been using the drug very largely in various kinds of cancer of the uterus, rectum, and breast, and they have the assurance of Messrs. Southall that the Chian turpentine they are using has been submitted to and "approved by Mr. Clay." His objection to the experience of Drs. Simpson and Macdonald does not therefore apply to theirs. In the practice of his colleagues, and in his own, some twenty cases have been subjected to the treatment for several weeks, without the slightest improvement in any case, — without the slightest appearance that the ordinary progress of the disease has been interfered with in the least.

Mr. W. F. M. Jackson gives the following unfavorable result attending its administration. He states that a patient of his suffering from cancer of the pancreas, eager to catch at any straw, procured, unknown to him, a box of Chian turpentine pills from Mr. Clay, of Birmingham. She took in all about thirty pills; when, finding herself no better, but rather worse, she discontinued the medicine. She began the pills on April 27th; on May 25th, or about three weeks after taking the last pill, she vomited a solid, sticky, yellow, fish-shaped mass, smelling strongly of turpentine, weighing one hundred grains, and measuring two inches and a half by three quarters of an inch, and being in depth a quarter of an inch, apparently a crude, undigested block of Chian turpentine.

Mr. G. W. Wigner, of London, also calls attention to the fact that Mr. Clay's descriptions of the drug are not exact. In quoting the account in Watts's Dictionary, one word appears to have escaped his notice: Watts calls Chian turpentine viscid. Now this would correspond with the spurious sample, but not with the genuine ones, which are brittle.

— Quoting from the *Gazette des Hôpitaux*, the *Medical Times and Gazette* says: Dr. Franck, in a paper which he read at the Biological Society, observed that he was of the opinion that the clinical observer could derive no precise indications from cerebral thermometry. Prof. Paul Bert stated that he was no wise surprised at M. Franck's conclusions, and it is for this reason that he had himself abandoned the researches he had undertaken on this question. In fact, it has now been amply shown that, with the exception of the two facts, — first, that the temperature of the anterior part is raised under the influence of intellectual exertion, and, secondly, that a similar elevation takes place in the same points in an infant on awakening, — there is no conclusion to be drawn from local thermometry applied to the brain.

— "At a recent meeting of the district medical society of Munich," says the *British Medical Journal*, "Professor Ranke showed a female child, five months old, the subject of congenital absence of all four limbs. It was the fourth child of healthy parents,

and while lying in its cradle with the face alone exposed it presented a perfectly healthy appearance; the facial expression was lively, the eyes followed the movements of the by-standers, and all the senses were well developed. The body was strong and healthy. The shoulder and pelvic girdles, with all their muscles, were present as in the normal condition. The shoulders presented small prominences, formed by the union of the clavicles with the acromion processes, and covered by little cushions of fat. In place of the lower limbs there was on each side, over the region of the acetabulum, a projection of skin, which could be somewhat retracted by muscular action into the cushion of fat surrounding it. The movements of the body were extremely lively and powerful. The coccyx was well developed; the child, placed on the tubera ischii and the coccyx, could retain the erect position with little support. Dr. Ranke attributed the deformity to arrest of development, and not to intra-uterine amputation. The child at the time appeared healthy and likely to live, but it has since died."

— The *Druggist's Circular* says: Ground mustard mixed with a little water is an excellent agent for cleansing the hands after handling odorous substances, such as cod-liver oil, musk, valerianic acid and its salts. A. Huber states that all oily seeds when powdered will answer this purpose. In the case of almonds and mustard, the development of ethereal oil under the influence of water may perhaps be an additional help to destroy foreign odors. The author mentions that the smell of carbolic acid may be removed by rubbing the hands with damp flaxseed meal, and that cod-liver-oil bottles may be cleansed with a little of the same or olive oil.

— A county-court decision at Sheffield, England, has affirmed that false teeth are not necessities, and that the dentist who supplies a married lady with them cannot recover the amount of their cost from her husband.

Miscellany.

PROLONGED ABSTINENCE FROM FOOD.

MR. EDITOR,— While the newspapers are daily recording the condition of "Dr." Tanner during his continued fast, allow me to report a case which came under my observation yesterday in an official manner. I was ordered by the pension department to make an examination of P. M., who resides near this city, and is alleged to be disabled by reason of disease contracted during the late war, more particularly while in a rebel prison. I found him considerably emaciated, with paralysis of the lower extremities and loss of voice, evidently partially or wholly demented, with the face flushed and the extremities cold, with very sluggish circulation. Age thirty-four, pulse 56, and of moderate strength and fullness; respiration 12; temperature 94° F.

The remarkable part of the case is that he has taken no food during the past forty-five days, or water, except to rinse his mouth, during the past nineteen days;

in fact, has been unable to swallow either during those respective periods. Owing to his present condition and the imperfect history obtained, a satisfactory diagnosis is impossible. An autopsy only would be conclusive. However, the facts above stated can be fully sustained.

J. C. NOYES, M. D.

OFFICE OF THE BOARD OF HEALTH,
OSHKOSH, WIS., July 22, 1880.

INCURABLE DISEASE.

SAYS the *London Lancet*: Maladies which cannot be "cured" are the opprobria of medicine as an art, and, for the most part, they are not less the enigmas of medicine as a science. It should not, however, be hastily assumed that cases which cannot be cured must therefore be regarded as beyond the hope of recovery. There is a wondrous power of *self-cure* in the organism, and many a sufferer condemned by the "faculty" has been reprieved by nature. It is most desirable that this should be borne in mind for two principal reasons: first, because hope is itself a great specific, even for diseases which seem to be beyond the reach of any remedy, and nothing so greatly tends to destroy the natural chances of recovery as the depression produced by an adverse prognosis, which is often amusingly falsified by the facts of experience; second, it is a most irrational position to take up that *any* malady is *incurable*. How can the scientist possibly feel sure of the proposition on which he erects his postulate? If it be generally difficult to prove a negative, it is absolutely impossible to do so when that negative is one that excludes the possibility of recovery from a disease. If the practical physician assumes that a case is incurable, he shuts himself out from the field of inquiry and experiment, where a remedy may be found. We are led to make these remarks by signal proof of the *impolicy* — to take no higher ground — of the position we condemn. Patients who are said to be suffering from incurable maladies go to adventurous practitioners, who try empirical remedies, or to "quacks," and recover after they have been "given up." The results of this procedure are to be traced in the advertisement columns of the lay newspapers, in which "cures" for incurable diseases abound, and it is absurd to suppose that no good follows their use. The *post hoc* is not the *propter hoc*, but that counts for nothing to the public, to the physician who has "waited on events" while he tried his method, or to the quack who reaps the credit of a success he has neither earned nor deserved. These persons do not cure the cases they claim to have benefited, but the cases do get well. And the *modus operandi* is this: A distinguished and able practitioner makes a diagnosis or gives a prognosis which sounds like a death-knell. The patient and his friends are disheartened, and for the time hopeless. By and by hope revives, and in the moment of its rekindling, or after several successive collapses and recoveries of the spirits, the patient falls under the care of some one who, honestly or dishonestly, with or without knowledge, professes to be able to "cure" the case. It is true, perhaps, — though even the most expert clinicians may occasionally be mistaken, — that the disease is incurable, but the case may nevertheless "recover;" and it does recover under the stimulus of hope and perhaps good regimen. Contempt is poured on science, and quackery or empiricism triumphs. The issue is most

satisfactory to the patient, but not so to the medical man. The moral of the tale does need not to be pointed. It lies on the surface. The category of "incurable" diseases should be reduced, and no case ought to be "given up" or condemned; for while there is life there is hope and hope itself may, and does, cure even diseases which science, in its supposed omniscience, asserts to be incurable, the physician being fooled.

MIDWIFERY IN SIAM.

SOME very interesting and curious notes on obstetric practice in Siam have been published by Dr. Samuel R. House in the *American Archives of Medicine* for 1879. The chief practitioners, he says, are elderly women. Male practitioners are summoned only in exceptional cases. Utterly ignorant as these are of anatomy and of the nature of the process of parturition, and holding that all delays and obstructions are caused by demoniacal interference, much of their practice consists in incantations and exorcisms and in rude methods to hasten expulsion. A favorite way is to press with great force on the abdomen and its contents, — shampooing vigorously with thumbs and fists. They even stand with bare feet upon the poor woman's body, crowding the heel upon the front or sides of the distended uterus. The writer has seen a large psoas abscess produced by the violence used on such an occasion. If the patient be feverish and restless, the midwife fills her mouth with perfumed water over which a charm has been muttered, and spurs it dexterously in a fine and not unrefreshing spray over the all but naked body of the sufferer, — bidding at the same time the evil spirit to be gone. In cases of tedious labor, a large brass bowl is procured, a long wax taper is lighted and fastened in the bottom of it by a few drops of the melted wax, silver coins to the amount of ninety cents (which are to revert to the midwife as fee) are stuck on the sides of the candle, and the bowl is filled up with uncooked rice, on which some coarse salt, dried peppers, etc., are thrown; and over this, with hands laid palm to palm and bowed head, an incantation is addressed to the invisible powers which have control over the malicious demons that are hindering the birth of the child.

For any bad symptoms that may arise, medicines are administered in accordance with their theory of pathology and therapeutics, that all disturbances of the system are produced by undue preponderance of one of the four elements, — fire, wind, earth, or water.

When the delivery is accomplished, one rushes out for salt; another for warm water and an earthen basin to wash the child; a third with frantic haste brings for the mother's comfort an earthen tray full of fire-brands, snatched up from the kitchen-fire, which soon fill the room with a blinding smoke. Meanwhile, from a piece of split bamboo a rude knife is fashioned, and with this the umbilical cord is cut, or rather sawed through, for with nothing metallic may the cord be severed. Since they never tie the cord, this is not bad practice, as by its liability to bleeding is prevented. An old earthen jar receives the placenta, which, with two or three handfuls of coarse salt thrown upon it, is buried in the garden, averting thus evil that would otherwise befall mother and child. The child is washed and laid on a soft pillow, around which, to protect from drafts and mosquitoes, a close curtain is ex-

temporized by using the three-yard piece of printed muslin that constitutes a Siamese dress. From the first day, babes in Siam are fed with honey and rice-water, and have the soft pulp of bananas crammed into their little mouths.

It is inground into the native female mind in Siam that the most direful consequences to both mother and child will ensue, unless for thirty days after the birth of her first child (a period diminished five days at each subsequent birth) she exposes her naked abdomen and back to the heat of a blazing fire, not two feet distant from her, kept up incessantly, day and night. From this curious custom none dare to exempt themselves. No superstition has greater hold upon them or more terrifies them with fear of coming evil if they fail to comply with it. Their medical science also bolsters up the custom by teaching that after the birth of the child there is always a diminution of the fire element in the system, tending to produce stagnation, a flabby state of the uterus, bad humors in the blood, a bad quality of the milk, and other unknown and terrible dangers to parent and offspring, from which this free external application of heat alone can deliver them. They think, too, the due quality and proper duration of the lochial discharge depend on this exposure to the fire. It is vain to tell them of the mothers in other countries who receive no detriment from their dispensing with such a usage. The manner of conducting this slow self-torture is as follows: A fire-place is brought in, or extemporized on the floor of the lying-in chamber by having a flat box or a simple rectangular frame-work of planks or trunks of banana-trees, three feet by four, filled in with earth to the depth of six inches. On this the fire is built with sticks of wood nearly or quite as large as one's wrist. By the side of this oblong frame and in contact with it, raised to the level of the fire, a piece of board six or seven feet in length is placed, and on a coarse mat spread upon this, or on the bare plank itself, the unfortunate woman lies, with bare back and limbs, quite nude indeed, save a narrow strip of cloth about her hips, with nothing else to screen her from a fire hot enough to roast a duck. There, acting as her own turnspit, she exposes front and back to this excessive heat. The husband or nurse is ever hard by to stir up and replenish the fire by night and by day. If it blaze up too fiercely, there is at hand a basin containing water and a small mop with which to sprinkle it on the flames and keep them in check. For the escape of the smoke no provision is made. Hot water alone is allowed to quench the patient's thirst.

His late majesty, Maha Mongkut, admitted the superiority of obstetric practice, and would gladly have abolished this absurd and injurious custom of his people. When he succeeded to the throne, in 1851, and children began to be born to him, he made some attempts in this direction. Upon the birth of the first of the eighty-one children begotten by him during his seventeen years' reign, Dr. House was summoned, in consultation with an older medical missionary, to the royal palace. Dr. Bradley had been sent for in the morning, and found the lady, who had given birth to a princess five days before, doing the usual penance of lying before a hot fire on a hard board, with the window-shutters of the apartment all closed, suffering from fever greatly aggravated by the heat and smoke. Representing the urgency of the case to his majesty, he obtained prompt and full permission to treat the

patient as he thought proper. The fire was at once, of course, removed, the window-shutters thrown open, the patient transferred to a comfortable mattress and cool water freely used, with some simple medicinal treatment. Thus relieved, the lady did well; and the success of the treatment was gratefully acknowledged by the king in an English letter accompanied with a purse of silver. There is, however, Dr. House says, no reason to suppose that this lady in her subsequent confinements dispensed with the broiling process. The queen herself, who, the ensuing year, gave birth to a prince, lay by the fire from choice, though suffering at the time with a grave disease which eventually caused her death.

It must be added, says Dr. House, there is one compensation to offset the mischievous consequences of this practice. It makes the women of the land escape the evils (prolapsus, etc.) that often result in other countries from resuming household duties too soon after the birth of a child. The Siamese mother is guaranteed by this custom, for one month at least, the fullest liberty to rest by her own fireside, undisturbed.

“CRUELTY TO WOMEN.”

THE following sensible editorial on a much-mooted subject is taken from the *London Lancet*:—

“It seems only too likely that the subject of providing seats for young women serving in shops will again fall out of public notice before the consideration it has received bears fruit. Under these circumstances it is necessary to go one step farther, and to say that the large houses of business which have not declared their determination to provide seats, as required by the obligations of humanity, or intimated that it is already their practice to do so, and that the young persons in their employ are not only permitted, but encouraged, to sit in the intervals between serving customers, are defying public opinion and inflicting a grievous wrong on humanity. It is a little absurd for the heads of these firms to send their contributions to the hospital fund as *charity*. What they give is an inadequate dole in aid of relieving—for it is impossible to *cure*—the injuries they daily inflict! We are not making this assertion at random, but speaking by the book,—the case-book of hospital work,—and affirm that some of the most painful and destructive diseases to which women are liable are distinctly produced and perpetuated by the cruel practice of compelling them to stand behind counters during long and weary hours for the profit of their employers. If it be true that the press of business is so great in the large establishments of Regent Street, Oxford Street, and other great thoroughfares that there is no time for those who attend upon customers to rest, let the heads of these houses of business devote a portion of their enormous gains to the humane purpose of saving life and health in their establishments by increasing the number of their employees. The matter is too serious to admit of its being shelved. It is no mere sentimental grievance we are concerned to redress. We have little sympathy with some of the proposals made by philanthropists for the ‘good of humanity;’ but this is a veritable case of cruelty and of disease-making. The evil is as grave and obvious in its character as though physical injury were intentionally inflicted on those patients who apply to surgeons for relief. A correspondent of

the class we are trying to rescue from this cruelty writes as follows:—

“I have watched with much interest and anxiety your continued appeals on behalf of shop-women, for whom, as one of them, I beg to express our grateful thanks, and to assure you how much we appreciate your efforts for us. It appears that our employers do not recognize the necessity of providing seats, but even if they do so under pressure, I am quite convinced it would in most cases be a mere farce, for we should never be permitted to use them; and, indeed, in ordinarily busy times the duties behind the counter are of such a nature as to make it almost impossible that there can be any sitting down. It seems as if nothing can really help us save the strong arm of the law. Let medical men (as being the best judges) decide how many hours a woman may daily stand without serious injury to health, and then let the law say that no woman shall be compelled to exceed those hours. This will give us the power to protect ourselves,—a power we do not now possess; for, alas, we are too many. The difficulty lies not in finding assistants, but in their finding employment; and were our duties made heavier instead of lighter, there would still be no lack of ‘hands.’ I can speak from experience of the ill effects of long hours of standing. Some time since I was compelled to seek advice. The doctor whom I saw most kindly, without fee, or reward, or solicitation on my part, called upon my employer to explain the absolute necessity of my being allowed to sit down as frequently as possible, in order to avoid being laid up altogether. This was stated to be *quite impossible, as others would expect the same privilege*. [The italics are our own.] It was then proposed that I should be allowed two hours’ rest in the middle of the day. After most strongly and persistently urging my case the doctor was victorious, and I have indeed reason to thank him daily for this ‘rest,’ which has no doubt saved me from an illness. There are, perhaps, hundreds of poor girls who need this rest as much as I did.”

“If these young women are kept standing, by shop-walkers employed for the purpose, to make a show of business which is not real, we say that practice is dishonest, and looking to the contingent mischief done it is unworthy of the heads of houses of business affecting to conduct their trade and make their profits honorably. If, on the other hand, the business done in these establishments is really so great and pressing that those who serve cannot obtain a little rest, nothing but the most unpardonable greed can prevent such increase of their numbers as would put an end to the evil and cruelty of which we complain. We leave this obvious rejoinder to the disingenuous and pitiful excuse of the shop-walkers, ‘We are too busy to let our young people rest,’ to the consideration of those ladies who retain any spark of human sympathy in their natures, when they ‘go shopping.’ We fear the number of feeling women is small. If ever there was a proof that the feminine nature is *not* gentle, or the sympathies of woman keen and active, the perpetuation of this grievous wrong is a proof that cannot be gainsaid. To obtain a wider selection of materials for a dress, or see the newest patterns of robe or mantle, a ‘lady’ will sanction by her patronage, and aggravate by her exacting demands on the strength and endurance of those who wait upon her, the ‘cruelty to women’ we are striving to put down.”

REPORTED MORTALITY FOR THE WEEK ENDING JULY 24, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	641	370	40.09	30.88	5.46	4.06	.62
Philadelphia.....	901,380	406	196	33.49	25.86	5.66	2.21	1.97
Brooklyn.....	564,400	252	145	45.23	38.88	5.15	3.57	—
Chicago.....	—	280	189	43.93	33.21	3.57	7.50	.36
St. Louis.....	—	139	77	33.09	20.86	4.31	1.43	1.43
Baltimore.....	393,796	152	81	38.16	23.68	1.31	2.62	3.93
Boston.....	365,000	191	100	45.02	39.79	3.14	3.14	1.57
Cincinnati.....	280,000	83	39	44.58	21.69	2.41	3.61	7.22
New Orleans.....	210,000	93	25	25.80	8.60	2.15	3.25	—
District of Columbia.....	170,000	73	39	26.02	17.81	8.22	2.74	2.74
Buffalo.....	—	51	26	43.14	35.29	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	54	30	42.57	14.81	1.85	7.40	7.40
Milwaukee.....	127,000	58	43	34.48	24.13	1.72	8.60	—
Providence.....	102,000	40	18	47.50	35.00	—	2.50	—
New Haven.....	60,000	28	13	35.71	28.57	3.57	3.57	—
Charleston.....	57,000	30	13	20.00	13.33	3.03	—	—
Nashville.....	37,000	30	18	36.66	13.33	9.09	—	—
Lowell.....	54,000	32	21	62.50	59.37	3.12	—	—
Worcester.....	53,000	32	22	65.62	59.37	—	—	—
Cambridge.....	50,400	23	15	56.52	52.17	4.34	4.34	—
Fall River.....	49,000	39	—	58.97	53.84	7.69	—	2.57
Lawrence.....	38,600	27	21	51.85	44.44	—	3.70	—
Lynn.....	34,000	21	14	47.62	33.33	14.29	—	4.76
Springfield.....	31,800	23	16	47.82	26.08	—	8.68	—
New Bedford.....	27,200	16	11	62.50	62.50	6.25	—	—
Salem.....	26,500	12	5	41.66	41.66	8.33	—	—
Somerville.....	23,500	11	8	45.45	45.45	—	—	—
Chelsea.....	21,000	4	—	50.00	—	—	25.00	—
Taunton.....	20,200	10	4	33.33	33.33	—	—	—
Holyoke.....	18,400	15	9	46.66	46.66	—	—	—
Gloucester.....	17,300	7	4	14.28	—	14.28	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	10	5	10.00	10.00	—	—	—
Newburyport.....	13,500	8	3	12.50	12.50	—	—	—
Fitchburg.....	12,600	6	3	83.33	83.33	—	—	—
Eighteen Massachusetts towns.....	132,110	56	28	44.64	37.50	—	5.36	—

Deaths reported, 2953; 1611 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1188, diarrhoeal diseases 898, consumption 318, lung diseases 123, diphtheria and croup 104, typhoid fever 41, scarlet fever 37, whooping-cough 36, malarial fevers 34, cerebro-spinal meningitis 21, measles 12, erysipelas two, typhus fever two, small-pox one. From *scarlet fever*, New York five, Philadelphia, Baltimore, Cincinnati, Nashville, four each, New Orleans and Providence three each, Brooklyn and Chicago two each, St. Louis, District of Columbia, Buffalo, Pittsburgh, Lowell, Lawrence, one each. From *whooping-cough*, New York eight, Philadelphia five, Chicago three, Brooklyn, St. Louis, Baltimore, Cincinnati, New Orleans, Pittsburgh, Providence, Charleston, Worcester, Lynn, one each. From *malarial fevers*, New York and New Orleans eight each, St. Louis seven, Brooklyn three, Philadelphia, Chicago, Baltimore, District of Columbia, Buffalo, New Haven, Charleston, Nashville, one each. From *cerebro-spinal meningitis*, New York four, St. Louis three, Pittsburgh and Springfield two each, Philadelphia, Chicago, Baltimore, Cincinnati, Milwaukee, Worcester, Fall River, Lynn, Chelsea, Northampton, one each. From *measles*, New York four, Cincinnati three, Pittsburgh two, Chicago, Baltimore, Gloucester, one each. From *erysipelas*, Buffalo and Springfield one each. From *typhus fever*, Philadelphia two. From *small-pox*, Philadelphia one.

Twenty-seven cases of diphtheria, seven of measles, eight of scarlet fever, one of whooping-cough, two of typhoid fever, were reported in Brooklyn; 22 of diphtheria and five of scarlet fever in Boston; 11 of diphtheria, which is increasing, and two of scarlet fever in Milwaukee, where, also, diarrhoeal diseases are prevailing; four of diphtheria, five of measles, two of scarlet fever, two of typhoid fever, 11 of diarrhoeal diseases, in Providence.

Total number of deaths considerably diminished; deaths under five diminished; deaths from diarrhoeal diseases likewise

diminished. Deaths under five diminished in New York, Philadelphia, Brooklyn, Chicago, St. Louis, and Cincinnati; increased in Boston.

In 35 cities and towns of Massachusetts, with an estimated population of 964,860 (population of the State about 1,690,000), the total death-rate for the week was 28.09 against 23.89 and 20.86 for the previous two weeks.

For the week ending July 3d, in 149 German cities and towns, with an estimated population of 7,662,492, the death-rate was 31.1. Deaths reported, 5451; 2782 under five: pulmonary consumption 501, acute diseases of the respiratory organs 290, diphtheria and croup 117, scarlet fever 78, measles 74, whooping-cough 51, typhoid fever 44, puerperal fever 21, typhus fever (Thorn two, Berlin two, Dortmund) five, small-pox (Tilsit, Königshütte two, Dresden) four. The death-rates ranged from 13.8 in Metz to 52 in Berlin; Königsberg 35.9; Breslau 36.4; Munich 38; Dresden 26.4; Leipzig 24.1; Hamburg 21.3; Hanover 18.6; Bremen 19.1; Cologne 35.6; Frankfurt 21.2; Strasbourg 29.7.

For the week ending July 10th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 19.2. Deaths reported, 2760: acute diseases of the respiratory organs 171, diarrhoea 183, scarlet fever 130, measles 81, whooping-cough 74, fever 37, diphtheria 12, small-pox five. The death-rates ranged from 10 in Hull to 30 in Norwich; London 18.9; Bristol 15; Birmingham 13; Manchester 21. In Edinburgh 19, Glasgow 23, Dublin 31.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 27 deaths from diarrhoeal diseases, 16 from acute diseases of the respiratory organs, whooping-cough five, typhoid fever four, measles two, scarlet fever one, diphtheria one. Death-rate of Geneva 21.4; of Zurich 19.5; Basle 20.4; Bern 20.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in Inches.
July 18	30.019	72	82	61	69	46	67	61	W	SE	S	5	6	6	C	C	C	—	—
" 19	30.087	73	85	63	71	50	62	61	0	SE	E	0	11	3	C	C	C	—	—
" 20	29.992	69	73	62	89	95	95	93	0	SE	SE	0	18	2	C	R	O	—	1.71
" 21	30.048	72	82	68	95	81	80	85	W	SE	0	3	5	0	O	F	O	—	.07
" 22	30.115	67	76	61	65	58	89	71	0	0	NE.	0	0	5	O	O	R	—	.80
" 23	30.107	67	73	60	94	75	84	84	NW	SW	SW	6	3	5	T	O	O	—	.12
" 24	30.074	72	82	63	95	67	85	82	SW	SW	SW	4	9	6	T	F	C	—	.01
Week.	30.061	70	85	60				77										17.05	2.71

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

INTERNATIONAL MEDICAL CONGRESS.

At the meeting of the committee of organization, held on July 13th, the list of sections and officers subjoined was finally decided upon. The congress will meet from the 3d to the 9th of August, 1881, in rooms granted by the University of London and the Royal and other learned societies meeting in Burlington House. Invitations to attend the meetings will be issued to all legally qualified medical practitioners in the United Kingdom, and will be sent to the different countries of Europe, to America, the Colonies, and India. Papers may be read in English, French, or German, and will be published in the volume of Transactions in the language in which they are read. It will be necessary for all who wish to make communications to the congress to intimate their intentions to the secretary before the end of March, 1881. All communications respecting the congress should be addressed to William MacCormac, Esq., honorable secretary-general, 13 Harley Street, London, W.

The following is the list of officers: President of the Congress, Sir James Paget, Bart., LL. D., D. C. L., F. R. S. Section I., Anatomy. President, Professor Flower, F. R. S. Section II., Physiology. President, Professor Michael Foster, F. R. S., Cambridge. Section III., Pathology and Morbid Anatomy. President, Dr. Samuel Wilks, F. R. S. Section IV., Medicine. President, Sir William Gull, Bart., M. D., F. R. S. Section V., Surgery. President, John Eric Erichsen, Esq., F. R. S. Section VI., Obstetric Medicine and Surgery. President, Dr. McClintock, LL. D., Dublin. Section VII., Diseases of Children. President, Dr. West. Section VIII., Mental Diseases. President, Dr. Lockhart Robertson. Section IX., Ophthalmology. President, William Bowman, Esq., F. R. S. Section X., Diseases of the Ear. President, William B. Dalby, Esq. Section XI., Diseases of the Skin. President, Erasmus Wilson, Esq., F. R. S. Section XII., Diseases of the Teeth. President, Edwin Saunders, Esq. Section XIII., State Medicine. President, John Simon, Esq., C. B., F. R. S. Section XIV., Military Surgery and Medicine. President, Surgeon-General Professor Longmore, C. B. Section XV., Materia Medica and Pharmacology. President, Professor T. R. Fraser, M. D., F. R. S., Edinburgh. Museum of Scientific Apparatus and Materia Medica. Museum Committee, Jonathan Hutchinson, Esq., chairman. Reception Committee, Prescott Hewett, Esq., chairman. Executive Committee, Dr. Risdon Bennett, LL. D., F. R. S., President Royal College of Physicians, London, Chairman.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 24, 1880, TO JULY 30, 1880.

FRYER, B. E., major and surgeon. Granted leave of absence for twenty days. S. O. 161, Department of the Missouri, July 26, 1880.

WEBSTER, WARREN, major and surgeon. His leave of absence extended one month, provided he furnishes satisfactory medical attendance during his absence. S. O. 124, Department of the East, July 27, 1880.

KING, WILLIAM H., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for an extension of three months, on surgeon's certificate of disability. S. O. 87, Department of Dakota, July 21, 1880.

COMBES, E. T., captain and assistant surgeon. So much of S. O. 135, C. S., from these head-quarters, granting him leave of absence on surgeon's certificate of disability is revoked. S. O. 144, Department of Texas, July 19, 1880.

BENHAM, R. B., first lieutenant and assistant surgeon. Having reported at these head-quarters, is assigned to duty (temporary) at Fort Snelling, Minn. S. O. 87, C. S., Department of Dakota.

GORGAS, W. C., first lieutenant and assistant surgeon. To report to the commanding officer, Fort Clark, Texas, for duty. S. O. 147, Department of Texas, July 23, 1880.

ERRATUM.—In our issue of July 29, 1880, the date of the Mortality Table should have been July 17, 1880, instead of July 23, 1880.

BOOKS AND PAMPHLETS RECEIVED.—The Nature and Treatment of Syphilis and the other So-Called Contagious Diseases. By Charles Robert Drysdale, M. D. Fourth Edition. London: Baillière, Tindall and Cox. 1880.

Library of Standard Medical Authors. Treatise on Therapeutics. Translated by D. F. Lincoln, M. D., from the French of A. Trousseau and H. Ridoux. Ninth Edition, revised and enlarged, with the assistance of Constantine Paul. Vol. II. New York: William Wood & Co. 1880.

Transactions of the American Dermatological Association, with the President's Address at the Third Annual Meeting, August, 1879. New York. 1880.

Fracture of the Patella. A Study of One Hundred and Twenty-Seven Cases. By Frank H. Hamilton, M. D., LL. D. New York: Charles S. Bermingham & Co. 1880. Pp. 106.

Optico-Ciliary Neurotomy. By Julian J. Chisolm, M. D. Baltimore. (Transactions of the Medical and Chirurgical Faculty of the State of Maryland. 1880.)

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-Second Annual Session, held at Baltimore, Md., April, 1880.

By-Laws of the Middlesex North District Medical Society, adopted April 26, 1880. With a List of Fellows and Code of Ethics. Organized 1844. Lowell, Mass. 1880. George C. Osgood, M. D., Secretary.

The Ship Origin of Yellow Fever, with Comments on the Preliminary Report of the Havana Yellow Fever Commission. By Robert B. S. Hargis, M. D. (Reprint.)

Diagnosis of the Posture of the Child in Utero by Palpation. By James O. Whitney, M. D.

Practical Hints relating to Yellow Fever Prevention. By Robert B. S. Hargis, M. D. (Reprint.)

The North American Review for August. New York: D. Appleton & Co.

Original Articles.

BACTERIA, AND THEIR RELATIONS TO DISEASE.¹

BY WILLIAM F. WHITNEY, M. D., OF BOSTON.

RECURRENT FEVER.

ANOTHER disease with which bacteria are shown to be most intimately connected is recurrent fever, a type not often seen in this part of the world, but common at times in Europe. The symptoms are those of an irregularly intermitting fever, occurring epidemically, and not yielding to quinine.

In 1873 Obermeyer (one of the assistants in the Pathological Institute in Berlin) published an account of a peculiar body which he had constantly found in the blood of persons affected with the disease, and which bore a close resemblance to the spirochæte found by Cohn in the tartar of the teeth. Since then its existence has so often been demonstrated by different observers as to be no longer a question of doubt, and it has been called, in honor of its discoverer, *Spirochæte Obermeyerii*.

The natural history of this parasite is not as well known as that of the bacillus last described. So far all attempts to reproduce the disease by inoculating animals have failed, and no opportunity has yet occurred for reproducing it upon men in this manner. The threads are found in the blood just before and during the paroxysm, and disappear completely during the apyretic stage. If they are found during this stage, as has been affirmed by some observers, they are few in number, and, according to one of the latest observers, their presence is always accompanied by a rise of temperature of a slight degree.

Cultivated in blood or other breeding fluids outside of the body, the threads go on to a certain degree of development, but never to the formation of recognizable spores, although their existence is rendered probable by the course of the disease. Experiments in regard to their capability of withstanding different degrees of temperature show that if two examples are taken from the same patient at the same time the threads are destroyed sooner by a fever temperature than by the normal temperature of the body; and, further, that specimens taken from the same patient at different periods of the attack had different capability of living when exposed to the same conditions. From this the conclusion is justified that the spirochæte are destroyed by the fever which they cause (as they disappear half an hour before the crisis), leaving behind them either spores or a very few threads, which when sufficiently developed give rise to the fever, which again destroys them. They have never been observed in the blood of patients suffering from other diseases.

In the two diseases just described, the bacteria found associated with them had well-marked characteristic forms, easily recognized by ordinary methods. In the diseases now to be described this characteristic is wanting, and peculiar methods of microscopic investigation have to be used in order to demonstrate their existence.

The work of Robert Kock, published in 1878, under the title *Die Wundinfektionskrankheiten* (Diseases caused by Wound Infection), is that in which the best

methods and experiments are recorded, and it will repay a careful abstract, as it must be considered a standard by which to judge work done in this field. He experimented in the production of diseases collected under the heads of septicæmia and pyæmia in local abscess formation and gangrene. Let it be here stated that under septicæmia are comprised all cases of general wound infection in which there are no metastatic changes, and under pyæmia those in which metastatic abscesses occur.

SEPTICÆMIA IN MICE.

The first series of experiments show the dependence of septicæmia in mice upon a very minute form of bacillus.

Injections of putrefying substances, for example, blood, or an infusion of meat made under the skin of a mouse, gave results varying according to the state and quantity of the fluid used. That which had been putrefying a long time was found less virulent. Five drops of a recently putrefied fluid produced symptoms noticeable at once. The mouse runs about less, shows great weakness and uncertainty in all his movements, does not eat, the respirations become finally irregular and slower, and death occurs in from four to eight hours.

In such an animal the greater part of the injected substance is found in the subcutaneous tissue, containing the same number of bacteria of different forms as before injection. There is no reaction in the neighborhood of the seat of puncture, and the internal organs are unchanged, nor are there any bacteria found in them or in the blood. If the blood is taken from the right heart and injected into a second mouse, he is not in the least affected by it.

The first animal has been killed by intoxication due to the poison contained in the putrefying substance, which has been isolated by Panum, Bergmann, and others under the name of *sepsin*. This has a working analogous to morphia, strychnia, or other poisonous alkaloid, and is in no way to be considered infectious. If, however, a less dose, for example, one to two drops, be injected, either the animals recover entirely, or a different train of symptoms will appear, due to an entirely different cause.

The first symptom of the disease consists in an increased secretion of the conjunctiva. The eye appears cloudy, and a white mucus collects, finally gluing the eyes together. At the same time the animal shows signs of weariness; it moves little and slowly; sits for the greater part of the time with its back bent and extremities closely pressed together. It then stops eating, the respiration becomes slower, the weakness increases more and more, and death occurs, almost unnoticed, in from forty to sixty hours after the inoculation. At the autopsy the internal organs are found unchanged, with the exception of the spleen, which is greatly swollen and very soft. A slight œdema of the subcutaneous tissue at the point of injection is often found. If a small quantity of blood from the heart of this mouse, say one tenth of a drop, be injected into a second mouse, this also dies with the same symptoms at the end of the same time. From this a third can be killed, and so on. Kock carried it through a series of fifty. This disease, then, is infectious, and bears so close a resemblance, in its course and anatomical appearances, to that known as septicæmia in men as to justify the name.

¹ Concluded from page 127.

If this process is due to bacteria, they must be present in enormous numbers in the blood and tissues, since such a very minute quantity is able to reproduce the disease.

At first Kock was unable to detect them, but at last by the following method was able to demonstrate their presence: The smallest possible quantity of blood is taken on the point of a scalpel and spread out to the thinnest possible layer on the covering glass of a microscopic slide, and allowed to dry thoroughly, well protected from dust. A few drops of a solution of aniline blue (a concentrated solution of BBBB methyl violet is made in spirit, and a few drops of this are added to fifteen to twenty grammes of distilled water) are allowed to fall on the cover glass holding the blood, and the glass is tipped about for a few minutes until the bacteria and cells are colored, but the ground substance is left clear. It can then be examined in a solution of acetate of potash (one to ten), or in Canada balsam after thoroughly drying.

By coloring the drop of blood in this manner and examining it with a Zeiss one to twelve oil immersion lens, illuminated by Abbe's condenser, he found in every case large quantities of small bacilli. These bacilli lie scattered among the red blood corpuscles singly or in groups. They have a length of about 0.8 to 1.0 mikrom., and their thickness is estimated at about 0.1 to 0.2 mikrom. Two of these bacilli are seen hanging together in a straight line, or forming an obtuse angle. Chains of four occur, but are seldom. At first appearance these bacilli look very much like acicular crystals, but by breeding they increase and form themselves into thick heaps. Their relation to the white blood corpuscles is also remarkable. They work into the interior and increase there; in some cases only a few are to be seen, and in others the corpuscles with the exception of the nuclei are filled; then again the nucleus of the cell is not to be seen, and finally all that is left is a little clump of bacilli.

The way in which the bacilli penetrate the organism is easily followed. From the point of inoculation they pass through the walls of the vessels by the holes through which the blood corpuscles have passed out. They are not found in the lymph paths, but can be followed for a long distance in the subcutaneous cellular tissue. In the small veins of the diaphragm, for example, they are seen, and, when free, with their long axis always in the direction of the current. In the capillaries the bacilli are crowded together at the points of division, but they do not give rise to complete occlusion of the vessel.

Sections of the various tissues show everywhere vessels with the bacilli lying in them and in the interior of the white corpuscles. They are not particularly accumulated in the spleen.

The entire process has the closest analogy with that of splenic gangrene. In both diseases is the capability of infection dependent upon the presence of the bacilli in the blood, and as soon as these fail the disease is not communicated. Both diseases are also characterized by the development of countless bacilli. There can therefore be but little doubt that the bacilli here described for septicæmia play the same roll as do the bacillus anthracis in gangrene of the spleen.

As gangrene of the spleen is without effect upon certain animals, so it was found that rabbits and field mice (the only other animals used by Kock) were not infected by the blood from infected house mice.

In cases of septicæmia in men, the presence of bacteria in the blood has been seen by only a few observers.

PROGRESSIVE NECROSIS OF TISSUE (GANGRENE) IN MICE.

After inoculating some of the mice with putrefying fluid as described, it was found that an extensive local necrosis of the tissue also occurred, accompanied by a rapidly growing micrococcus form, which was not to be found in the blood. As the animals suffered from septicæmia at the same time, it might be urged that the gangrene was dependent upon that disease. In order to eliminate this, a little fluid from the neighborhood of one of these gangrenous spots was injected into a field mouse, which it will be remembered was incapable of infection from septicæmia. On this the gangrenous process alone developed itself, and could thence be reproduced in an ordinary house mouse without the symptoms of septicæmia.

The process can be readily followed, if the ear of a mouse is chosen for inoculation. Thin sections through one of these places show masses of micrococci on the boundary between the living and dead tissues; then comes a mass of nucleated cells, much degenerated on the side nearest to the micrococci, from which they are, however, separated by a clear, narrow zone. This mass of nuclei appears to form a wall against the invading micrococci, which are never found beyond it even in the vessels.

From this Kock concludes that the micrococci vegetate in the tissue, and exude or secrete a soluble substance, which is diffused into the neighborhood, and has such a deleterious influence on the adjoining cells that they are killed and finally go to pieces. Further from the micrococci the working is less intense, and only calls forth a reactive inflammation with production of nuclei forming the wall.

PROGRESSIVE ABSCESS FORMATION IN RABBITS.

As before mentioned, rabbits are incapable of septic infection, but frequently, after the subcutaneous injection of putrefying fluids, a wide-extended abscess developed itself. The changes observed are as follows: At the point of injection a flat lenticular infiltration first appears, which extends in all directions after several days. At the same time the animals become thin and weak, and die in from twelve to fifteen days. The post-mortem examination showed a flat abscess of the subcutaneous connective tissue, having little recesses connecting with each other. The only other change noticed besides the extreme emaciation was an increase in the number of white blood corpuscles, which, however, contained no bacteria, nor were any found in the blood. The contents of the abscess consisted of a molecular detritus not colored by aniline blue. Thin sections of the wall of the abscess, mounted and examined in the way above mentioned, show a narrow zone of the finest micrococci lying on the periphery of the abscess next to the sound tissue. In the connective corpuscles are seen here and there masses of micrococci, apparently acting as advance guards of the process. The cheesy material, from the centre of the abscess, when mixed with water and injected into another rabbit, produced similar results, with death, within the same time. This material probably contained the spores.

PYÆMIA IN RABBITS.

Although putrefying blood did not produce any symptoms of general infection when inoculated into rabbits, it was found that putrefying flesh gave rise to well-marked and characteristic changes. The animal remained apparently unaffected for two days, then began to eat less, and died at the end of one hundred hours, with symptoms of general weakness. At the autopsy there was found a purulent (not cheesy) infiltration in the subcutaneous tissue for a long distance from the point of injection, a general peritonitis, the spleen soft and greatly swollen, and in the lungs and liver gray, wedge-shaped spots. In the other organs there was no noticeable change. The microscope showed everywhere in the body, especially in the places showing pathological changes to the unaided eye, micrococci in great numbers. These were either single or bound together by twos, and had an estimated diameter of 0.25 microm. (that is, midway in size between the chain micrococci of the progressive tissue necrosis and the zoöglæa masses of the cheesy abscess of rabbits). These micrococci also formed colonies on the walls of the vessels, and apparently had the power of entangling the red corpuscles by a glue-like substance, and eventually causing a thrombosis of the vessel. In the metastatic deposits were found extensive micrococci vegetations, not alone confined to the vessels, but infiltrated into the neighboring tissues. Blood from the heart contained micrococci, and was used for inoculation with perfect result. But the number of the bacteria, owing to their localization by thrombosis, by no means equalled the number found free in the blood of septicæmia or gangrene of the spleen, for a dilution of the blood in the proportion of one to one thousand rendered its working uncertain.

In human beings the impossibility of direct experimentation and the difficulty of obtaining autopsies sufficiently early to exclude all possibility of the production of the bacteria of putrefaction will always be a serious obstacle to so perfect and clear a proof, as has been furnished in the above experiments, of the dependence of some certain diseases upon the presence of micro-organisms. Much, however, goes to support this belief.

Rindfleisch was the first, in 1866, to call attention to the occurrence of bacteria in the metastatic abscesses in the muscles of the heart of a patient who had died from pyæmia. Recklinghausen and Waldeyer showed their occurrence in the smallest veins, glomeruli and tubules of the kidney, and in the alveoli of the lungs. In 1872 Vogt reported the occurrence of moving monads in the pus of a metastatic abscess during life. Birch Hirschfeld examined the condition of the wound in relation to the quantity of micrococci in the pus, and found the more numerous they were the worse was the condition of the wound and of the patient. He also found them present in the blood of the pyæmic, and that the quick course of the general affection corresponded to the number present in the blood. The exact method by which the bacteria found their way into the circulation was given by Klebs, who was the first really to attempt to bring the causal relation between bacteria and wound infection into prominence. Klebs called the micrococci and bacteria which he found in the pus of wounds by the name of *microsporion septicum*, and was enabled to follow the growth of the zoöglæa masses on granulations, surfaces of the joints, and serous membranes. The propagation of the

microsporion by the lymph paths could be followed with great certainty, and moreover their entrance into an eroded vein was observed in one case. Further, the elements of the microsporion were seen in the thrombi, formed behind the valves of the veins, and in the metastatic foci in the lungs and liver.

The occurrence of micrococci in the membrane of diphtheria of the throat has been confirmed an endless number of times. Their penetration into the nearest lymph-vessels, their further progress into the blood-vessels, and their occurrence in the liver, kidneys, muscles of the heart, and in other organs in the form of colonies, have been observed and confirmed. There is nothing distinctive in this from what is ordinarily seen in a case of pyæmia, and the experiments which have been made upon rabbits in this regard are by no means conclusive, as similar results could be obtained by inoculating any putrefying substance. Moreover, the membrane found on wounds in cases of so-called hospital gangrene is indistinguishable from that found on the throat. From all these circumstances one is forced to recognize the near relationship of diphtheria and pyæmia, if not their identity, and what is justified in one is justified in the other.

Exactly the same occurrence has been demonstrated in the case of so-called puerperal fever, which the greater part of observers on other grounds regard as pyæmia.

Bacteria have also been found in the blood of persons suffering from erysipelas. Orth found them in the bullæ of that disease, and by cultivation and inoculation reproduced a similar process in rabbits. Recklinghausen and Lukomsky showed that the lymph canals and spaces on the border of erysipelatous affections were filled with bacteria.

Cohn has shown the presence of sphæro-bacteria in the lymph of the vaccine vesicle, and by allowing the same to settle found that its efficacy stood in different proportion to the amount of micrococci it contained. In small-pox Weigert has proved the existence of micrococci in each pustule. Both of these results have been confirmed by other observers.

Since the publication of Kock's book other observers have followed his methods, and within six months investigations have been recorded which show that two other diseases are in all probability due to micro-organisms. One of these is malarial fever, which has been studied by Professors Klebs and Tomassi-Crudeli. They placed portions of the soil from the malarial districts in the neighborhood of Rome under conditions similar to those found during the so-called malarial season, and from these developed a bacillus, which when injected into the blood of rabbits produced a sort of intermittent fever, during the paroxysms of which the bacillus was found largely increased in the blood. The post-mortem examination showed a hyperplasia and often melanosis of the spleen, corresponding to what has been found in man, and totally different from the acute splenic tumor which occurs in septicæmia. Portions of the soil from other localities failed to produce the symptoms when treated in the same way.

The other of these diseases is leprosy. Dr. Hansen, of Bergen, in Norway, has examined the nodes in this disease, and has been able to find a minute bacillus, which is always present in sufficient numbers to account for the symptom. But he has failed as yet to discover the conditions of its life and development.

Such are the principal diseases to which bacteria

are referred as a cause. To these may perhaps be added ulcerative endocarditis, with or without affection of the joints, in which micrococci are found in the vegetations on the valves, and in the emboli produced by them; and cystitis and pyelo-nephritis resulting from the alkaline fermentation of the urine caused by a micrococcus.

In summing up, Kock says that the numerous occurrences of micro-organisms in cases of disease, and the experiments standing in close relation, make the parasitic nature of these diseases probable. Still a complete proof has not been given as yet, and can only be when it is possible to find the parasitic organisms in all cases of the disease, and, further, to show them in such quantity and distribution that all the appearances can be explained, and finally to demonstrate, for each separate disease, a morphologically well-characterized parasite.

In looking back it will be seen that gangrene of the spleen is the only one which as yet fulfills the conditions, although the diseases studied by Kock on animals very nearly do so.

And although in all of these, with one exception, so much remains to be proved, there are some who wish to refer simply analogous processes, as scarlet fever, measles, and the like, in which they have not been found, to the agency of bacteria; forgetting that there may be causes which we can as little recognize as could our forefathers the bacteria, which are everywhere around us.

And even admitting all to be proved as desired, it is not to be forgotten that it is *but the cause* which has been found, and the real changes which lie in the cell and constitute the essence of the disease are as far off as ever.

THE COLLECTION OF DATA AT AUTOPSIES.¹

BY H. P. BOWDITCH, M. D.

THE records of autopsies, as ordinarily conducted for the purpose of ascertaining the cause or the seat of a fatal disease, contain as a rule little or no exact information in regard to the size of the different viscera, unless they vary from the normal standard sufficiently to attract attention.

The so-called normal standard of weight has been established for the most important viscera by the researches of Reid, Clendinning, Peacock, and others, but there is still a great lack of precision in our knowledge of the limits of normal variation of the various organs, and of the relation of the size of these organs to the height and weight of the individual.

Imperfect as is our knowledge of the size of the organs in an adult, our information in regard to the viscera of growing children is still more fragmentary. With the exception of the heart and perhaps of the liver, there is scarcely an organ whose rate of growth has been even approximately determined, and yet without this knowledge it is impossible fully to utilize the data obtained at the autopsies of children.

It is, moreover, possible that variations in the size of organs, even within what are usually considered normal limits, may so affect the relations of the different parts of the organism to each other as to produce tendencies and predispositions capable of exercising a pro-

found influence upon the life of the individual. The well-known power possessed by the various organs of the body to adapt themselves to the demands made upon them (for example, the hypertrophy of one kidney after the destruction of its fellow) will of course tend to restore the equilibrium of the organism, but it is by no means proved that the power of adaptation is in all cases so perfect as completely to neutralize the effect of marked anatomical variations.

Led by considerations similar to those above presented, and with a view to determining how far the various diatheses recognized by authors can be explained by anatomical peculiarities of the organism, Professor Beneke, of Warburg, has recently published the results of an investigation into the absolute and relative size of various important organs at different periods of life and in connection with different morbid tendencies.² In researches of this kind conclusions are valuable chiefly in proportion to the number of observations on which they are based, and the data at Professor Beneke's disposal were in many cases so scanty that, as he himself admits, further investigations are needed to confirm his conclusions. At the same time many of the facts which he has brought to light are so interesting and so suggestive that it seems desirable to call the attention of this society to the matter, in the hope that a discussion of the subject may lead to an organized effort on the part of the members to add to the data from which conclusions may be drawn in this most instructive field of study.

Some of the most important of Professor Beneke's results may be briefly stated as follows:—

- (1.) Before the period of puberty the aorta is larger than the pulmonary artery; after this period the relation is reversed.
- (2.) The aorta and pulmonary artery are smaller in the female than in the male, even at those ages at which the size of the body is greater in the female sex.
- (3.) In adult males the volume of the lungs is greater than that of the liver. In adult females the reverse is the case.
- (4.) In men the volume of the two kidneys is less than that of the heart; in women it is greater.
- (5.) Children have a relatively larger intestinal canal than adults.
- (6.) A sudden increase in the size of the heart occurs at the period of puberty.
- (7.) The iliac arteries diminish in size during the first three months of life.
- (8.) The cancerous diathesis is associated with a large and powerful heart, capacious arteries, but a relatively small pulmonary artery, small lungs, well-developed bones and muscles, and tolerably abundant adipose tissue.
- (9.) Pulmonary tuberculosis is often associated with an unusually small heart.
- (10.) In rickets the heart is large and well developed.

Some of these results are in accordance with well-established physiological facts; others are somewhat unexpected. Before any discussion of Professor Beneke's conclusions can be profitably undertaken, it is impor-

¹ Die anatomischen Grundlagen der Constitutionsanomalien des Menschen, Marburg, 1878. Die Altersdisposition, Marburg, 1879. Ueber das Volumen des Herzens, Cassel, 1879. Ueber die Weite der Aorta thoracica und Aorta abdominalis, Cassel, 1879. Ueber die Weite der Iliacæ communes, Subclaviæ und Carotides communes, Cassel, 1879.

² Read at the October meeting of the Massachusetts Medico-Legal Society, 1879.

tant that they should be confirmed or modified by a more extended series of observations, and it is in collecting and recording data of this sort that the members of this society have it in their power to contribute very efficiently to the solution of an important class of scientific questions. The measurement of organs need not be very laborious. The size of arteries is determined by opening them on one side, flattening them out, and applying a millimetre scale transversely to their inner surface. The volume of organs is, according to Professor Beneke, a more important point to be determined than the weight, since in many pathological conditions (for example, fatty degeneration) it gives a truer measure of the change produced by the disease. The volume of an organ is readily ascertained by plunging it into a vessel completely filled with water, and measuring the water which overflows in a graduated glass. Where it is possible to do so it is desirable to ascertain both the weight and the volume of the various organs, for from these data the specific gravity may be calculated.

It is of course important to follow definite rules in regard to the separation of organs from the body, the selection of points for measurement, etc. These matters are very fully discussed by Professor Beneke in the above-mentioned essays, and future workers in this field cannot probably do better than adopt his carefully elaborated methods.

The direction in which the work of such a society as this can most profitably be exerted is probably that of securing as large a number as possible of observations on the size of the healthy organs at different ages. Cases of sudden death by violence or accident afford admirable opportunities for the collection of data of this sort, and if each member of the society were to make but one such carefully conducted autopsy in each year there would soon be collected a body of statistics which would form an important contribution to our knowledge of the above-mentioned questions.

DIPHTHERIA, AND THE RESULTING PARALYSIS.¹

BY ANDREW F. REED, M. D., OF HOLYOKE.

WE desire to call attention to the poison of diphtheria, and afterwards to some points relating to the origin and peculiarities of the resulting paralysis, which are lightly touched upon by English authors.

One of the theories of present interest in regard to the subject of diphtheria is that its origin may be in one poison common to several zymotic diseases, as scarlet fever, measles, typhoid and puerperal fevers, and others. Two or three years since there appeared in the *London Practitioner* a paper in which the author endeavored to show that zymotic diseases did not always breed true, but that the supposed various poisons of the different epidemic diseases uniting on one subject might generate a disease partaking in part of the character of each of the original diseases.

As examples of this hybrid action are cited enteric fever modified by malaria, the simultaneous eruption of measles and scarlet fever on the same subject, and the various gradations of simple anginas usually preceding and accompanying diphtheria when epidemic. The general tenor of the paper indicates that the au-

thor's mind was turning in the direction of unity of poison, and prepared the way for others who have since expressed more positive opinions. In June, 1879, Dr. Griffiths published a paper in the *Obstetrical Journal* showing the unity of origin and virus in this class of diseases. This doctrine of identity of poison and differentiation of resulting phenomena is borne out, he says, by therapeutical and clinical facts; for example, the entirely different action of iodide of potassium, ipecac, opium, and mercury in different persons, and different methods of administration. Also in the vegetable kingdom the same analogy exists, and from the same soil poisonous plants develop, side by side, with those most innocuous. Thus there is no outrage against nature or its laws. Frequently, directly after a case of puerperal fever, will appear, in the family or among the attendants, erysipelas, diphtheria, scarlet fever, or sore throat, which is to be explained by exposure to one poison, whereby all are simultaneously affected, which Dr. Griffiths thinks is generated, not auto-genetically in the mother in the first place, but is hetero-genetic in all. We have noticed several instances which go to prove the correctness of this doctrine of unity.

During a complete absence of scarlet fever from the vicinity, after contact with a severe case of erysipelas following an injury, a boy of eight years was attacked with vomiting, headache, high fever, redness and swelling of the fauces, followed by the characteristic eruption of scarlet fever, and after convalescence by complete desquamation including the palms of the hands and the soles of the feet. There was no probability of other exposure, and as far as one case can show anything the connection between the two cases was very closely evident. Hospital sore throat, so frequent among house surgeons exposed to erysipelatous wounds and hospital air, is another instance of the possible unity of poison with a differentiation of symptoms.

For several years in our vicinity diphtheria has been epidemic, and a large number of cases have yearly occurred until the spring of 1879. During this period there has been no epidemic of other contagious diseases, sporadic cases of scarlet fever, measles, whooping-cough, etc., occasionally appearing. For the last twelve months scarlet fever has been epidemic, and during the latter part of the time measles to an unusual degree. The disappearance of diphtheria signaled the appearance of the epidemic of scarlet fever, and during its continuance there has been an almost complete absence of the former. When the scarlet fever began to decline, measles were very prevalent, and on its ceasing to become epidemic cases of diphtheria more frequently appeared. It seems allowable to suppose that the general conditions favoring the presence of diphtheria were the same as for a long period, and, in point of fact, the sanitary condition of the vicinity was more favorable to its continuance, owing to overcrowding of tenement blocks, as also to conclude that the poison simply presented different manifestations or symptoms. The reasons for this view may not be clearly demonstrable as yet, but the clinical evidence renders inquiry in this direction pertinent.

During the epidemic referred to, we saw several cases which bear upon the subject. In three such the eruption of scarlet fever covered the body, while the arms were covered with the blotches of measles, the tendency of which to arrange themselves in the form of a crescent was very noticeable, illustrating unity of

¹ Read at the annual meeting of the Massachusetts Medical Society, June 8, 1880, and recommended for publication by the society.

poison and the existence of the two diseases simultaneously, — which is admitted to be possible, — or the hybrid nature of the disease. We claim that there is as much reason for believing the result to be due to one poison as that the two coexisted.

In March of the present year, we saw two children of the same family, one two and one four years old, who were never out of each other's sight, and who were exposed to the same conditions in every respect. The younger was attacked with the usual symptoms of diphtheria, with extensive diphtheritic exudation, covering both tonsils and the posterior wall of the pharynx, which came off in shreds after four days. There was no redness of the skin at any time. The elder followed in a few hours with scarlet fever, the eruption appearing on the second day. There were redness of the fauces and swelling, but no exudation. In another instance, in a block exposed to the effluvia of an overflowing vault, typhoid fever and diphtheria appeared in close conjunction. Mention is made in the *British Medical Journal* of cases showing the same unity, and with more than ordinary proof of their illustrative force, as they occurred in an isolated place. Previous to the outbreak no cases of typhoid fever or diphtheria had occurred for a long time; suddenly, within a week ten cases of typhoid fever and six cases of diphtheria appeared. This took place in a small mining village, and in the houses built on the lowest ground. The ground was covered with a few inches of snow for weeks, during which time sewage of all kinds was thrown out-of-doors, to be covered by the snow. After a sudden thaw, exposing this filth, the outbreak occurred.

Cases like these have been noticed in sufficient numbers to warrant the assumption that the origin is in one virus. During an outbreak of diphtheria every variety and degree of severity of sore throat usually accompanies it, often covering a large territory in a very short time, precluding the possibility of personal infection in all cases, which indicates that diphtheria may originate from filth or other causes, without a virus which will produce only a single specific disease.

While in any particular instance it may be hard to prove the failure of contact with a specific poison, the cases mentioned, the number of which might be increased from various sources, show collectively the possibility of an interchange of symptoms with one septic poison. If the origin of these various diseases may be in one poison, the practical value of such elimination of causes shows itself in the adoption of less variety of treatment in the diseases as now classified, and lack of confusion as to what should be accomplished by the aid of medicine. Again, the disappearance of diphtheria endemic for years, and the substitution of scarlet fever, in a compact city where contact with a specific poison must be of daily occurrence, is a weighty argument in favor of such unity, and overbalances the objection brought forward in individual cases of possible exposure to a specific virus. Thus we regard it as by no means settled that such special germs are necessary to produce each so-called specific disease.

PARALYSIS.

Although paralysis as a sequel of diphtheria was noticed in the last century, no accurate representations of its course and frequency were attempted until 1864 by Maingault.

The observations of the various pathologists and

clinicians who have written on the subject of the origin of diphtheritic paralysis at the outset are of interest, inasmuch as little has been given in English, and also as clinical facts may lead to their modification. It was first thought to be due to changes in the functions of the muscular fibres in the region of the pharynx, caused by the previous inflammation there. This does not explain how the paralysis extends to parts not primarily affected. This extension in such case would be due to a sympathetic connection with the throat. Von Graefe thinks diphtheritic paralysis arises not from the diphtheritic processes as such, but proceeds from the localization in the throat and the extension of the irritation to the sympathetic, this irritation of the sensitive nerve fibres being induced by an abnormal activity of the vessels in the neighborhood of the affected parts. The objection to locating the origin of the paralysis in the primary disease of the throat is that while in mild cases of angina the paralysis appears there first, in other severe cases it may be wanting, and attacks the muscles in other parts of the body.

An instance of this is mentioned by Dr. J. J. Putnam, in a paper to which I am permitted to refer, and we have seen one among the cases we have collected. The occurrence of paralysis after infection from an abrasion of the finger, as happened in one case, is also opposed to this view. Seitz mentions a similar case from inoculation of the arm during an epidemic: in six weeks there was paralysis of the palate and extremities, resulting fatally in fourteen days. There was no throat disease. Brétonneau considered the primary local paralysis due to the localization of the diphtheria in the pharynx, and the general paralysis to chronic blood poisoning. It has also been supposed that the tendency to the formation of emboli in the arteries is due to the altered conditions of the blood, and that the nerves in the vicinity, thereby deprived of their proper nourishment, become paralyzed. Post-mortem examinations, however, have not shown obstruction of vessels to be as regularly found as the frequency of paralysis would indicate to be necessary to prove such origin of the disease.

The anæmia which follows diphtheria is common to many other diseases not followed by paralysis, which militates against the views of Brétonneau and Trousseau, that blood poisoning is the cause of the paralysis. The nervous system presents a more promising field for the explanation desired. Some look to the central, others to the peripheral, nervous system; for example, the paralysis was supposed to be due to an exudation in certain parts of the nervous system. Gubler attributed it to peripheral changes independent of the nerve centres. This view is commonly accepted by German and English writers. Weber accepts the theory that the localization of the diphtheria in the throat arises from an affection of the nerves in the part seized, extending through the nerves to the cord, as in traumatic tetanus. This change was a degenerative process extending to the cord, according to Senator. Charcot and Vulpian found the structure of the nerves changed, a granular degeneration in the medullary cylinder of the same; also fatty granular cells were scattered between the sheath and the nerve fibres. Oertel saw a similar lesion in two cases of septic diphtheria.

Extended hæmorrhages have been observed in the meninges of the brain, also in the medullary substance, in the medulla oblongata and spinal cord; and it has been further observed that hæmorrhages at the point

of union of the anterior and posterior roots of the spinal nerves had caused increased volume of the nerve substance, with discoloration and softening. Microscopic examination at the point of union showed similar changes to those in the nerve sheaths of the other parts of the body, as the throat and respiratory organs. Oertel also saw in the gray substance of the cord a large thrombus and many microscopic hæmorrhages, particularly in the anterior horns. On the ciliary epithelium of the central canal he found a collection of cells which quite filled the passage and extended through its whole extent. Beneath the epithelium lay an infiltration which had broken through the neighboring tissues. Seitz states, in his treatise on diphtheria, that through the changes found in the nerve centres and their membranes it is possible to explain the disturbance of the nervous system and the widespread paralysis; also that the varying extent and degree of the paralysis undoubtedly proceeds from the original local manifestation of the disease in the throat, extending to the nerve centres; the proofs being the primary appearance of the disease in the muscles of the palate and pharynx, and subsequent progress to other parts, also the preponderance of the motor paralysis about the surface of the diphtheritic exudation. The great frequency of paralysis in the throat when there was no general paralysis is commonly noticed, and would seem to bear strongly in favor of this view. The extension of the paralysis may be explained in the same way as the extension of an inflammatory affection of the nerves in their substance. According to Quain, the nerves of the soft palate and epiglottis for the most part belong to the pharyngeal plexus, which is composed of three or four branches of the glosso-pharyngeal, with branches from the pneumogastric and sympathetic. Along these nerves and the connective tissue which surrounds them the lesion can progress above to the carotid plexus and ciliary ganglion, and below to the cardiac, and along the vagus to the spinal accessory, thence to the spinal ganglia and cord. The intense hyperæsthesia observed in several cases of diphtheritic paralysis by Greenhow, and the prominence of painful spots in the course of the nerves, lead him to look for the cause in an inflammatory process in the nerves, and he cites a case where he could observe a neuritis of the optic nerve. Dr. J. J. Putnam thinks that, as is the case with the metallic poisons, the nerve centres react differently towards the various morbid conditions of the blood induced by disease.

The question arises what the relation is between the diphtheria and the paralysis; whether it is specific in its nature, or similar to that which exists after other diseases which impoverish the blood.

After the publication of cases of diphtheritic paralysis, paralyzes were also observed after simple angina, typhoid fever, and other diseases. Within a year we have observed a case of paralysis after measles in a strumous child of nine years, who had previously been attended for scarlet fever. Diphtheria with paralysis of the throat lasting for six weeks was followed in May, 1879, by measles with paralysis of the larynx, dimness of vision, and dysphagia, lasting five weeks. If, as we believe, there is a unity of poison, the arguments in favor of a specific relation to that poison would have more force, although altered nutrition might be the cause in all of them.

The proportion of cases of paralysis probably varies

with different epidemics, and the statistics are undoubtedly varied by the class of patients from which they are drawn. In private practice the percentage is larger, owing to the greater mental development of the better class of patients, and the greater strain to which their nervous systems are subjected. In 1874, M. Mansard collected reports of 1017 cases of diphtheria in which the results were noticed. Paralysis occurred in 111 cases, or ten per cent. In our vicinity, during a long period in which the disease was endemic, and with several hundreds of cases, very few were followed by paralysis, the whole number being not more than five per cent. One physician in another city, with an average of thirty cases yearly for several years, has not seen a single case. From six to ten per cent. is probably a fair average.

Other disturbances of the sensitive and motor nerves sometimes occur, and may be noticed in this connection. Convulsive movements of the head, which is turned from side to side, although the mind is clear, are mentioned by Seitz; also spasm of the respiratory muscles, in one case of which respiration seemed to stop. In one boy with paralysis of the larynx, a spasmodic coryza occurred every morning, lasting ten minutes, with constant sneezing and flow of mucus. Mental disease is rare. In one case, in a girl of fourteen, with paralysis of the face, the brain was disturbed, and temporary idiocy resulted.

Dr. Earle mentions a case in a woman of mental exaltation, with disturbance of ideas and want of coördination, which ended unfavorably. In another, with general progressive paralysis, there was permanent mental disturbance and imbecility. Seitz noticed mental disease three weeks after paralysis of the throat in a boy of fifteen. This case was relieved by ice and nourishment.

Disease of the vagus may accompany these paralyzes, with vomiting, and irregularity, weakness, and slowness of the heart's action. Six times out of thirty-nine cases reported by Weber, the pulse fell to sixteen a minute, with fainting, etc. Paralysis appears much oftener after diphtheria than after other acute diseases. In 1860, See published one hundred and fifty cases, while Gubler found only thirty-three cases after all other acute diseases. Seitz found but three after a large number of cases of typhoid, and then only after long and severe attacks.

Fortunately the large majority of cases recover, and that too without much aid from medical science. In thirty cases of Seitz's, twenty-eight recovered, of which seventeen were children, three youth, and ten adults. Age seemed to have no influence on the duration, and little as regards recovery. In seven, paresis of accommodation remained. In three cases of a low grade it lasted longer than when the paralysis was more complete. In ninety cases of Maingault's twelve died, and nine out of seventy-seven mentioned by Reynolds. In some of these fatty degeneration of the heart, liver, and kidneys was found.

Oertel gives the per cent. of mortality as from eight to ten. Of the twelve cases which we have collected, one died from inanition, the power of swallowing being gone, and no effort having been made to nourish the patient by a stomach tube or by rectal alimentation. According to Oertel, death is usually due to some intercurrent disease, as bronchitis or pneumonia, or the effects of foreign bodies in the bronchial tubes, owing to accidents in efforts of swallowing.

We have collected twelve cases of diphtheritic paralysis, two of which we saw, and which represented about six per cent. of the whole number of cases. Five were in children, the remainder adults. Of the adult cases, five were persons of sedentary habits, whose occupation was mental. Three were teachers, one a manufacturer, and one a professional man. In the latter there was some tendency towards paralysis, his father having had incomplete paralysis after typhoid, at the age of fifty-one, which was permanent. In this case, with general paralysis of the limbs, etc., the duration was three months. In one case of a child of three years, permanent paralysis of the internal rectus of one eye resulted, and in one adult paresis of accommodation to some extent. In one case there was no affection of the fauces after the paralysis appeared in the extremities. In the adult male cases, it was noticed that the sexual organs were the last to be affected, and the first to recover their functions. The digestive organs in these cases performed their functions in a generally satisfactory manner, and a good amount of nourishment was taken and digested, which in the main constituted the treatment.

Recovery in these cases took place in from three weeks in one child, to nine months in a woman of forty. The fatal case has been referred to. Death took place in twelve weeks from the invasion of the paralysis. It is unfortunate that no effort was made to administer nourishment through a stomach tube, which has been successfully done in several instances. In two cases, after recovery severe lancinating pains in the joints and feet persisted for two or three months, and have been troublesome at intervals since. We were impressed with the probability that those whose nervous powers were most heavily taxed were more liable to this sequel than the laboring class. Our cases seem to show this as far as they go, and it is also likely that in some a predisposition to paralytic disease renders the patients more susceptible. Recovery was apparently aided by the administration of strychnine, and the faradic current applied after no new sets of muscles were invaded.

THE FORAMINA OF MONRO: SOME QUESTIONS OF ANATOMICAL HISTORY.

BY BURT G. WILDER, M. D.

THE foramina of Monro may be provisionally defined as a pair of lateral orifices which form the sole channels of communication between the lativentriculi and the cephalic division of the mediventriculus.

This definition is provisional in respect to terms rather than facts. It may be easily demonstrated, upon an uninjured brain, that the only exit from either lativentricle — other than into the corresponding olfactory ventricle — is by an opening through its mesial wall into the cephalic (anterior) part of the mediventricle (third ventricle); but there is room for a difference of opinion as to, first, the desirability of distinguishing, by the name *aula*¹ or otherwise, this prethalamie space from the interthalamie part, or third ventricle proper; and, second, as to whether the name foramen of Monro shall be applied to the whole extent of the passage between the two lativentricles, including the vertical pas-

sage sometimes called "vulva cerebri," or be restricted to the lateral orifices of this space.

The former question must be decided mainly by reference to the facts of embryology and comparative anatomy. In considering the latter it would be well for us to know, first, what was described by Monro; second, what was intended by the anatomist who first used the term; third, what is sanctioned by modern usage.

Taking the points in the reverse order, it must be admitted that upon the third the evidence is conflicting. In some cases the author's meaning is not made clear, but, so far as I have been able to learn, two foramina are specified by Darling and Ranney² (444), Dunglison (431, 1095), Foster and Langley (224), Gray (468), Hirschfeld (50), Huguenin (4, 67, 73), Hyrtl (444), Mihalkovics (118), Milne-Edwards (xi, 304), Morrell (174), Reichert (15, 26, 52), Robin et Littre (1633), and Vicq D'Azyr (9, 17). It is distinctly mentioned as a single passage with two lateral orifices, and sometimes a median ventral orifice, by Charles Bell (ii., 428), Cuvier (111, 369), Chauveau (730), Mivart (120), Todd (676), Quain and Wilson (iii., plate 7), and Quain, Sharpey, Thomson, and Schäfer (ii., 544).

As to the second point, I have been unable to ascertain by whom the phrase "foramen of Monro" was first employed, and hope to learn through some one more familiar with the works of the older anatomists.

The original descriptions which gave rise to the name are undoubtedly contained in a work by Alexander Monro, published in 1783, and entitled *Observations on the Structure and Functions of the Nervous System*.³ The evidence for this view is both internal and external.

In the chapter Of the Communication of the Ventricles of the Encephalon with each other, as described by other Authors, numerous citations and quotations are given to show the imperfection of previous descriptions. The author claims (page 16, note) to have "read to the Philosophical Society of Edinburgh, in 1764, December 13th, a paper On the Communication of the Ventricles of the Brain with each other," etc. He also claims to have been in the habit of demonstrating the communication since 1758, and quotes part of a letter from one of his students, a Dr. Morgan, "now physician and professor of physic in Philadelphia," written to Sir John Pringle in London in 1762, and describing the demonstration as seen by him in the lecture-room. Longuet seems to have been displeased at the use of the name in connection with the foramina, but Vicq D'Azyr compliments Monro for his description in an *Eloge*, and in his own great *Traité*, published in 1786, apparently before the phrase "foramen of Monro" was introduced, uses the following language: "M. Monro, savant professeur d'anatomie à Edinbourg, a donné, etc. . . et l'on voit dans ses planches III. et IV. de son *Nervous System* les ouvertures qui établissent une communication entre le troisième ventricule et les deux ventricules latéraux." Meckel (ii. 462) also refers to Monro on the Brain, although, probably by a misprint, the date of its publication is given as 1793. Finally, in no other work is it claimed that the description is original.

¹ The numbers refer to the list of works at the end of this paper. The authors are placed alphabetically, and the Arabic figures denote the pages, the Roman the volumes.

² Two copies of this work are in the library of Harvard University.

The work above mentioned contains the following passages: "After laying open one of the lateral ventricles . . . an oval hole. From this hole a probe can be readily passed into the other lateral ventricle, showing in the first place that the two lateral ventricles communicate with each other. . . . The middle part of this passage is over a passage downwards, named the *iter ad infundibulum*, or *vulva*, which should rather be called *iter ad tertium ventriculum*." (Page 114.) "A natural passage by which the lateral ventricles communicate with each other and with the third ventricle. This passage is bounded on the fore part by the anterior crura of the fornix; above, by the fore part of the body of the fornix, where it is about to form its anterior crura; behind, by the meeting of the choroid plexuses of the two ventricles; below, by the thalami. . . . The communication between the lateral ventricles laid open by cutting the fore part of the body of the fornix. By such a section the hole or passage appears by which the lateral ventricles communicate with the third ventricle." (Explanation of Plate 3.)

These passages certainly entitle the author of the work to the credit of demonstrating the existence of interventricular communications, which, as he states (pages 9 and 10), had been ignored or denied by most prior anatomists; but they also indicate a serious misconception of the true relations of the ventricles. *Monro* seems to have regarded the mediodorsal commissure as an important morphological landmark, and as separating the passages above described from the mediventricle. We know now that this commissure exists only in mammals, and is formed late with them, while in birds, reptiles, and batrachians the mediventricle is undivided.

If this statement of *Monro's* views is correct, it seems to me that full justice will be done to his memory if we retain his name in connection with a part of the passage which he described, and that considerations of development, comparative anatomy, abundant precedent, and real convenience should decide us to restrict the application of the term foramen of *Monro* to each of the *two lateral orifices* of the prethalamie part of the mediventricle. The question of naming this *aula* need not be discussed upon the present occasion.

Naturally connected with the historical part of the subject are the identification of the author of the Observations and the spelling of his name.

In Huxley's *Vertebrates* and in Huxley and Martin's *Elementary Biology* the name is always spelled *Munro*; while in Darling and Ranney it is as constantly *Monroe*. The name is undoubtedly to be spelled *Monro*.

The last of our historical inquiries is, Which of the *Monros* was the author of the Observations? The title page bears simply Alexander *Monro*. But there were three Alexander *Monros*, father, son, and grandson; all were professors of anatomy in the medical school of Edinburgh, and all wrote anatomical works. Dunglison and the Edinburgh Encyclopædia state that the foramen was described by *Monro secundus*, while Todd and Littré et Robin ascribe the description to *Monro primus*.

After a careful examination of the Observations, and a comparison of dates from nine different sources, I am prepared to state positively that the work was written by Alexander *Monro secundus*, and that the foramen was named in his honor.

Concise stated, the evidence is as follows: *Monro primus* died in 1767, while the work claiming to contain the first full description was not published until 1783, sixteen years later. A letter from a student published therein speaks of the author as *filio*; and the author refers to "the radial nerve of Winslow" as "the nerve called spiral muscular by my father," and as the "muscular spiral nerve of *Monro*." (Pages 134 and 136.)

The author of the Observations, then, must have been either the son or the grandson of the first *Monro*. But *Monro tertius* was born in either 1773 or 1774, and at the time of the publication of the work was only nine or ten years old. Moreover, in his own work, *The Elements of Anatomy*, I am informed that *Monro tertius* describes the discovery of the foramen by his father.

Recapitulation of conclusions and inquiries:—

(1.) It will be better to consider that there are *two foramina of Monro*, one for each lativentricle.

(2.) The cephalic end of the mediventricle, forming what was originally regarded as the middle part of the passage called foramen of *Monro*, should probably be recognized as a distinct ventricular integer, and might be named *aula*.

(3.) The work claiming to contain the first sufficient description of the interventricular communication was written by Alexander *Monro secundus*, and the name was given in his honor.

(4.) Who first employed the name I have not been able to learn, and what was first implied by it can only be inferred until the first use of the term is known.

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RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.¹

BY F. I. KNIGHT, M. D.

SOME OF THE COMMONER AFFECTIONS OF THE TONSILS FROM A DIAGNOSTIC AND THERAPEUTIC STAND-POINT.

UNDER this caption Dr. G. M. Lefferts² read a very interesting and valuable paper before the New York Academy of Medicine. He deprecates the old method of examining the throat with a teaspoon instead of a proper tongue depressor, and urges the use of reflected light. He calls attention to the loose nomenclature of acute affections of the tonsils, all of them being called "quinsy and ulcerated sore throat." As a matter of fact, the inflammatory conditions to be named, both in their causation, seat, symptomatology, and treatment, are as widely different as in like conditions elsewhere. Inflammation may attack either the parenchymatous tissue, or the secreting tissue of the tonsil, or the tissues about it. In the former case, if acute, it will proceed to the formation of true tonsillar abscess, or so-called quinsy, a comparatively rare condition. What is commonly reported as abscess of the tonsil is oftener an inflammation and suppuration of the tissues at the base or in front of the gland. Verneuil has shown us that the tonsil does not adhere very firmly to the groove, if it may be so termed, which lies behind it; and that when tumefied by inflammation it bulges out between the anterior and posterior pillars of the soft palate, and moves backward and forward with every movement of deglutition. This mobility, he asserts, is one of the principal causes of the formation of abscess. The gland being continually displaced, a serous bag forms in the connective tissue, which stretches between both pillars of the fauces and occupies the bottom of the groove in which the tonsil lies. In this serous bag the purulent gathering is formed. Such an abscess is always deep seated (and this is the one commonly met with in practice), and cannot, therefore, be easily reached with the knife. To incise such an abscess it is necessary to cut through the anterior pillar of the fauces; for this pillar — enlarged, œdematous, and protruding — forms the anterior wall of the abscess. The reason of failure at times to find pus on incision of a fluctuating spot in this region is explained in this manner. The swelling of the tissues puts upon the stretch the thyro-palatine and the pharyngo-palatine muscles; between the two is thus left a small triangular soft spot, palpation of which conveys to the finger a decided sense of fluctuation.

Dr. Lefferts dwells upon the frequency of follicular tonsillitis being classed as ulceration of the tonsil, the disease being in reality an inflammation of the mem-

brane lining the crypts of the tonsil, which are blocked up by a cheesy secretion. To prevent recurrence of the attacks of true tonsillitis Dr. Lefferts recommends excision of the glands and constitutional treatment, which he thinks always indicated. For acute tonsillitis and peritonsillitis he recommends steam inhalations and warm applications outside. Scarification of an inflamed tonsil often gives great relief, even if no abscess is reached. The nitrate of silver locally and guaiac internally he thinks of doubtful value.

Dr. Lefferts dwells upon the great importance of excision of enlarged tonsils in children, that is, when the tonsil is much enlarged and indurated. He dwells upon the serious affections of the general health dependent upon such condition, which necessitates the breathing of a diminished supply of air which has also become vitiated by the foul secretions of the tonsils.

LUXATION OF THE LEFT CORNU OF THE HYOID BONE.

Dr. W. H. Daly³ reports the case of a physician who applied to him for relief from this condition, which had occurred half an hour before while laughing. Dr. Daly, on laryngoscopic examination, found no lesion to account for the patient's symptom of marked dysphagia. His head was bent a little forward and to the left, and straightening it up caused a dull pricking pain over the left cornu of the hyoid bone. Speech was clear, but exercised cautiously. The patient stated that he had suffered repeatedly from this luxation. Dr. Daly grasped the throat firmly below the os hyoides with the thumb and index finger of his right hand, steadying his head with his left, and directed the patient to swallow vigorously, at the same moment compressing and retracting the parts between his fingers, and then quickly releasing them. After the third effort the patient suddenly declared that he was all right again.

THE IMPORTANCE OF ANÆSTHESIA OF THE LARYNGO-PHARYNX AS A SYMPTOM OF HYSTERIA.

During the course of an epidemic of hysteria which occurred at a young ladies' boarding-school at Bordeaux, M. Armaingaud⁴ observed that in some cases irritation of the pharynx, epiglottitis, the opening of the larynx and the ary-epiglottic folds by means of the finger-tip or a stiff feather was followed neither by the slightest sensation nor by reflex action. He concludes, therefore, that this anæsthesia is not simulated, agreeing with the views of M. Chairon. He does not, however, believe with the latter that this symptom is pathognomonic of hysteria, because it is also found in a certain proportion of cases of epileptic, saturnine, and simple neuropathic convulsions. Nevertheless, with other symptoms of hysteria, anæsthesia of the pharynx and larynx may assist us to decide whether the attack be simulated or real.

ON POLYPUS AND OTHER MORBID GROWTHS IN THE NOSE; THEIR RADICAL TREATMENT BY THE ELECTRO-CAUSTIC METHOD AND THEIR CONNECTION WITH ASTHMA.

Dr. J. L. W. Thudichum⁵ says that he abandoned the use of the forceps in removing nasal polypi sixteen

¹ Concluded from page 133.

² New York Medical Record, December 27, 1879.

³ Archives of Laryngology, vol. i. No. 2.

⁴ Gazette des Hôpitaux, No. 39, 1880, Archives of Laryngology, vol. i. No. 2.

⁵ London Lancet, April 17, 1880.

years ago, and adopted the electro-caustic platinum-wire noose. The immediate objections to the use of the forceps are that it causes great pain, and the view is immediately closed. It frequently injures the parts seriously, and is ineffectual. The permanent results are more serious, consisting of fractures and dislocations of turbinated bones, and adhesions between them and the septum. Thudichum claims to have been the first to use electro-cautery for the removal of nasal polypi. The advantage of it is that it is thorough and painless, and that, the instruments being small, one can see the point operated on all the time.

Operations by electro-cautery for the ablation of excrescences in the nose other than polypi, namely, fibrous, adenoid, osseous, or osteo-cartilaginous growths, are very successful. Atresia or closed nostril is opened by proceeding with the electro-caustic wire from without inward. After the cavity has been opened the projecting parts are further excised until sufficient space is produced to cause contraction in healing.

Ablation of the turbinated bone, an important operation, is effected in two stages: one act is the cutting away of the cavernous tissue with the white-hot wire; the other, the cutting away of the bone with nippers, or chisel and hammer. In most cases the removal of a short piece, of an inch, at most an inch and a half, in length, suffices to establish a good canal. Polypi frequently have bony excrescences in their substance which have to be similarly removed, and to be carefully manipulated to prevent wounding the nose by their sharp edges.

Thudichum states that among the complications of nose diseases, particularly polypus, none is more common than asthma. About every fifth case of chronic nose disease has, or has had, asthma (!). Frequently this asthma disappears after the removal of polypi, even when they are very small. Some patients were so very sensitive in the nose that they were seized with an attack of asthma when the cavity of the nose was touched by instruments. The asthma is sometimes relieved by the careful use of ammoniac chloride and potassic iodide. "But the iodide must not be used where there is bronchitic complication." Here the most useful remedy is the inhalation of the pyrolytic vapors of extract of opium, belladonna, Indian hemp, hemlock, hyoscyamus, and stramonium.

CONGENITAL SYPHILIS OF THE LARYNX.

Dr. Barlow,¹ at a recent meeting of the Pathological Society, showed a larynx removed from a child eleven months old, the subject of congenital syphilis. When five months old the voice was noticed to be rather weak and hoarse, especially when she cried; there was also a hoarse cough, but no sign of laryngeal dyspnoea. The child eventually died suddenly after three or four days' illness, apparently connected with the larynx. At the post-mortem examination there was found to be some oedema of the ary-epiglottic folds, very slight erosion of the mucous membrane above and below the vocal cords and in the ventricles, and some very scanty, thin, and closely-adherent laminae of false membrane. The cause of death appeared to be the supervention of membranous inflammation upon a chronic laryngitis. Dr. Barlow said that he was induced to bring the case forward because Dr. Sémon had recently stated that disease of the larynx in congenital syphilis was very rare. Dr. Sémon said

that he had been misunderstood by Dr. Barlow, for he had only stated that in congenital syphilis deeper lesions were rare; superficial catarrh was, no doubt, common enough. Not only were the records of the deep lesions very few, but it was a noteworthy fact that in cases of congenital syphilis, with signs of destruction of the nose or palate, only very few examples of destructive disease of the larynx had been found: he himself had never seen any. Dr. Lees was able to confirm Dr. Barlow's statement as to the frequency of affections of the larynx in congenital syphilis. He remembered three cases in which the affection was evidently severe: in one he had been able to see that the epiglottis was thickened and ulcerated; another case had been admitted to the hospital three or four times with urgent dyspnoea, for which it was feared tracheotomy would be required, but the symptoms were relieved each time by mercurials; any catarrh brought them back. Dr. Barlow mentioned that Dr. Bumstead had observed six cases of very deep ulceration. On the invitation of the president, Dr. John Mackenzie (America), who had specially studied the question, stated that in all he had collected seventy-eight or eighty cases of marked congenital syphilitic disease of the larynx, which he hoped shortly to publish. He thought the affection was as common in congenital as in acquired syphilis; twenty years ago examples of the latter were looked upon as pathological curiosities, as those of the former are now. Many cases were overlooked from neglecting to use the laryngoscope, and because they fell under the notice of the general practitioner rather than the throat specialist.

LARYNGEAL SYPHILIS.

In the course of quite a long article on the study of this disease, Dr. E. C. Morgan² says that the diagnosis of the milder forms of laryngeal syphilis is occasionally a matter of great difficulty, though we may have the entire history of the patient. The anatomical and laryngoscopic appearances in syphilitic laryngeal erythema (superficial syphilitic laryngitis) are, in most respects, identical with those observed in catarrhal laryngitis. In both affections the congestion of the vocal cords may be partial, complete, unilateral, or bilateral. In the latter stages erosions, mucous patches, ulcerations, oedemata, hyperplasiae, gummata, chondritis, and perichondritis may occur, necessitating a differentiation between syphilis, phthisis, and cancer.

Dr. Morgan places himself among those observers who find great difficulty in distinguishing, from local manifestations alone, between syphilis, cancer, and phthisis. In regard to the treatment of laryngeal syphilis, Dr. Morgan says that it is attended with encouraging results in the great majority of cases. A larynx which has undergone the most extensive destructive processes, and is apparently beyond repair, may so far improve under local and constitutional treatment as hardly to show any lesions. He has seen even cicatrices become almost imperceptible. In addition to appropriate constitutional treatment the following local treatment is recommended. In superficial syphilitic laryngitis, accompanied by erosions, mucous patches, and light ulceration, inhalations of bichloride of mercury are very useful. Mercury bichloride gr. iiss., alcohol ℥ij., water ℥viij.; from four to six drachms of this solution to be inhaled from the steam atomizer once or twice daily. It is sometimes necessary to make

¹ London Lancet, April 10, 1880.

² Virginia Medical Monthly, October, 1879.

applications of fused nitrate of silver in addition. In more extensive ulcerations of the epiglottis and larynx he applies iodo-glycerine after the following formula: iodine grs. viij., potassium iodide $\mathfrak{z}\text{i}$., glycerine $\mathfrak{z}\text{i}$., to be applied by the brush. Astringent solutions are to be applied by means of the laryngeal brush every second or third day: chloride of zinc (one to fifty), acid nitrate of mercury (one to one hundred), nitrate of silver (one to twenty), chromic acid (one to five), sulphate of copper (one to twenty). Frictions of mercurial ointment over the larynx and iodide of potassium internally are recommended by Schnitzler in perichondritis of the larynx. When the pain is severe we may resort to a teaspoonful of the following solution of Fauvel, inhaled from a steam atomizer or used as a gargle with water: morphiae muriatis gr. xv., potassii bromidi $\mathfrak{z}\text{i}\text{ss}$., orange-flower water $\mathfrak{z}\text{ij}$., water $\mathfrak{z}\text{vi}$. Local applications of sulphate of morphia, one part to fifteen each of glycerine and water, or the insufflation of one fourth of a grain of morphia with sugar of milk or gum arabic, will often prove efficacious. Gargles of salicylate of sodium. Absolute rest of voice and abstinence from alcohol and tobacco should be insisted upon. The application of mercurial ointment to the larynx externally, the use of croton-oil liniment on the chest, or two blisters placed on either side of the larynx in such a manner as to leave space to perform tracheotomy if required, generally relieves acute oedema. These means failing, Dr. Morgan quotes the advice of Isambert to apply a strong solution of chromic acid (one to two or four) directly to the parts, which often succeeds immediately in reducing the swelling. Scarification of the cedematous parts is effective in preventing suffocation, and should be made freely and often, if necessary. Dr. Morgan has seen good results in chronic oedema from insufflation of iodoform in powder in combination with powdered gum arabic and sugar of milk, or iodoform in glycerine (thirty grains to one ounce). Tracheotomy should not be delayed too long, and the canula should be removed as soon as possible.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

REPORTED BY DUDLEY P. ALLEN, M. D.

SURGICAL CASES OF DRs. CABOT AND WARREN.

ACUTE SPONTANEOUS GANGRENE OF SPECIFIC ORIGIN.

J. F., the subject of this affection, twenty-five years of age, was born in Spain. Is a cigar maker by trade. Four weeks before entrance to hospital, patient was seized with pains in both lower extremities, which afterward became limited to the right. Some time later the lower extremity became gangrenous. On entrance to hospital the lower two thirds of the right leg were entirely gangrenous, and there was also a gangrenous spot three to four inches in diameter on the inner side of the thigh.

No cause whatever for the disease could be discovered. The leg was poulticed, and the patient stimulated and nourished as highly as possible. Temperature did not rise above 100° F. until one day before operation.

Nine days after entrance, as the line of demarkation

was fully formed, all the gangrenous parts were removed, almost no fresh tissue being cut. The amputation was at the upper third of the tibia, and on removal of the island of sloughing tissue, on the inner side of the thigh, the femur was exposed for about three inches. The slough in the thigh ran upward three to four inches under healthy tissues. A Lister dressing was applied to the leg, and renewed from time to time for seven days. After that time simple dressings were applied. After operation patient's temperature fluctuated considerably, and he had a poor appetite. The discharge of pus was copious. Twenty days after operation patient's urine contained a large trace of albumen, with numerous hyaline and granular casts.

Shortly after this patient improved somewhat, eating better and feeling stronger, but on the thirty-first day after operation he had a chill, which was repeated in twelve hours; several chills followed; his temperature fluctuated more widely, reaching 104.4° F. He gradually grew weaker, breathed more rapidly, and on the thirty-first day after operation, and about the tenth week after first attack, patient died.

Autopsy showed thrombosis and complete closure of the right external iliac artery. There were metastatic abscesses of kidneys, spleen, liver, and lungs. Gumous deposits were found in the kidneys. It was supposed that the gangrene resulted from thrombosis dependent upon syphilitic endarteritis.

LACERATED WOUND FOLLOWED BY DIFFUSE GANGRENOUS CELLULITIS.

N. A. C., fifty-seven years of age, came to the Massachusetts General Hospital with two splinters in the back of his right hand, extending from the distal extremity of the third metacarpal bone to the extremity of the radius. No bones were broken, and the injury appeared slight. The splinters were removed, and a moist dressing was applied. Two days later the hand and arm were painful and inflamed. A poultice was substituted. On the following morning the back of the hand and whole lower part of the fore-arm were much inflamed and swollen, and there was a crackling sensation, as from the presence of gas in the tissues. Three longitudinal incisions were made in the back of the hand, and two long incisions were made on the front of the fore-arm, evacuating a large amount of very offensive pus. Cellulitis continued actively for about ten days, although the arm was freely opened and drained. After this for three days the patient's condition improved, the discharge became less offensive, and the slough gradually separated. At this time a profuse hæmorrhage occurred, as was supposed, from the radial recurrent artery; shortly after, hæmorrhage leaving the patient cold (temperature 96.2° F.), almost pulseless, and unconscious, he was nourished and stimulated by enemata of beef tea, ammonia, and milk and brandy. The enemata were continued for eleven hours. After this the patient's general condition gradually improved. Profuse suppuration of the arm and hand continued, all the soft parts sloughing away except the integument on the anterior surface of the arm, which was sufficient to preserve the fingers alive, although all the bones of the carpus and metacarpus were removed one by one. The lower two thirds of the radius and ulna were exposed and necrosed. Five weeks after the patient was first injured the fore-arm was amputated about four inches below the elbow, the wound healing kindly.

PERINEAL SECTION FOLLOWED BY URINARY INFILTRATION AND SLOUGHING OF THE SCROTUM.

On September 9th C. B. was admitted to the Massachusetts General Hospital with stricture of three years' standing, following gonorrhœa.

The urethra being impervious to all instruments, perineal section was performed, and a No. 12 gum-elastic English catheter was left in the urethra.

The opening in the perinæum was about three inches long, and closed rapidly over the instrument. On the fourth day after operation the scrotum was found to have been largely infiltrated with urine, and at the most dependent portion it was gangrenous. The catheter was removed, and the parts were freely divided along the septum by a cut from the base of the penis backward to the original incision, and flaxseed and charcoal poultices applied. The patient's temperature ran very high, and his general condition was poor. The parts were thoroughly cleansed twice daily, and the sloughing tissue was cut away as rapidly as possible.

One week after the original operation all the slough had separated. The testicles and cords were fully exposed and covered with granulations. All that remained of the scrotum was a shrunken border about one inch wide on either side of the folds of the groin. From this time the case progressed favorably.

All the urine passed by the perineal opening for nearly three weeks, after which time, by holding the legs together and pressing upward on the perinæum, the patient could pass a portion of it by the penis. The opening in the perinæum decreased, and the amount of urine passed by the penis increased until time of patient's discharge, two months after entrance, at which time the opening in the perinæum was only large enough to admit a probe, and almost the entire amount of urine was passed by the penis.

The testicles, which were wholly exposed, became gradually covered by the integument, which was drawn up over them by means of bands of silk gauze, attached to the flaps on either side by collodion, and when the patient was discharged only a small surface on the end of one testicle remained uncovered, and he could introduce a No. 14 English steel sound. At time of discharge from the hospital he was in excellent general condition.

HIGH TEMPERATURE FROM CONSTIPATION.

A patient with mammary abscess had for eight days been treated by poultice, and the abscess had discharged freely, and was rapidly healing. The temperature had not risen at any time above 99° F. For four days patient had had no movement from the bowels, when one morning the temperature rose to 104.5° F. An enema of soap-suds was given, and in less than an hour after this had operated the temperature fell to 100° F., and continued normal afterward.

Patient made no complaint, nor was there any phenomenon of any sort to account for the high temperature unless the constipation would do so. No remedy was used except the enema.

—Professor Hofrath Dr. Karl Ritter von Sigmond-Ilanor, the professor of syphilis in the Vienna University, having reached his seventieth year, now retires upon a pension, declining the offer of the minister of public instruction to continue his post for another year.

Reports of Societies.

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

SINCE the first meeting of this society, which was duly reported in the JOURNAL, there have been four regular meetings. The papers read have all been on interesting subjects, and, followed as they have been by long and full discussions, the meetings have been of decided profit to the members. The total membership of the society is now seventeen, two of these being honorary members. The number of journals taken is eight; these comprise the best English and German journals on psychology, and together with a number of others, contributed by members of the society, furnish reading matter which could not be obtained in any other manner.

At the February meeting Dr. C. F. FOLSOM read a paper on Fanaticism and Insanity, already published in the JOURNAL. — Dr. WHITEMORE asked if there were any indications pointing to *petit mal* or nocturnal epilepsy. — Dr. FOLSOM replied that there were not. — Dr. FISHER regarded the kind of insanity affecting Freeman and his followers as largely emotional in origin, but resulting in religious delusion, and communicated from one to another, — a sort of mental contagion. He gave the details of several cases in his own practice. In one of these a woman first became insane, her delusion centring on an old woman whom she regarded as a witch. Shortly after her husband became possessed of the same delusion, and finally her whole family stoned the house where the witch had been seen. Dr. Fisher had collated 36,983 cases of insanity, and found of these 5.79 per cent. were due to religious excitement. — Dr. FOLSOM thought that Dr. Fisher was rather mistaken in his theory as to Freeman's case, for he had been insane before joining the Adventists, and religious excitement was a result rather than a cause of his insanity.

Dr. N. FOLSOM thought that confusion sometimes arose from the use of obscure terms; for instance, mental contagion. He did not believe in a so-called *border-line*; insanity and fanaticism were no more closely allied than pneumonia and fanaticism.

Dr. C. F. FOLSOM expressed the opinion that sanity and insanity were sometimes very near together. He stated that Mrs. Freeman was now insane. This insanity would have been temporary, like that of the other Adventists, had not her health broken down in jail.

MARCH MEETING. Dr. FISHER read the paper of the evening, called The State of Rhode Island v. George H. Brown. Brown was tried in the court of common pleas, Providence, R. I., June 16, 1879, for the murder of John A. Jenks, at Pawtucket, the preceding December. The particulars of the murder and the events just previous and subsequent to the murder are as follows: November 24th Brown asked the chief of police to go to his house and hear a confession. He went, and there heard from Mrs. Brown that she had been seduced by Jenks several years before, and he had visited her frequently since. On Christmas morning, Brown, who, in consequence of his wife's infidelity, had suffered mental agony for nearly two months, passing sleepless nights and often being at the point of sui-

cide, started for town, with a pistol in his pocket, to get some medicine for his head. Apparently by accident he met Jenks in the street, and spoke to him pleasantly, and also spoke quietly to a friend with Jenks. He then, having passed them five or six feet, drew his pistol and fired at Jenks twice. The friend of Jenks seizing him, he threatened to kill him also. After this he went quietly to the police-station with an officer, and there talked, seemingly without knowing what he said. He seemed confused and indifferent to the crime he had committed. Toward morning of the next day he attempted suicide by cutting his throat, and lost much blood; shortly after he had a convulsion, or fainting fit.

The government testimony was conflicting as to Brown's insanity. They tried to show premeditation, but there was nothing in the evidence to support this view. The defense set up the plea of insanity in the form of irresistible impulse.

The testimony showed that there was insanity in Brown's family. He complained frequently of pain in his head; was sleepless at night, much depressed; to his family physician was unnatural and excited in behavior; he lost appetite; walked about the house crying, and would strike his breast, dash his head against the wall with sufficient violence to cause bruises, and put his revolver to his head. Dr. J. W. Sawyer, of the Butler Hospital, did not regard Brown as fully responsible at the time of the homicide; he thought the fact of his not seeking out Jenks important. Drs. Whitney and Perry saw no indications of insanity. Dr. Fisher thought the preponderance of the testimony favored insanity, the act being the result of impulse. A state of extreme mental depression with suicidal impulse had existed for some time, and though without obvious delusion amounted to insanity.

The jury did not agree on a verdict, and Brown has since been released on bail.

Dr. Fisher stated, after reading this paper, that the case bore a general resemblance to the Sickles, Coles, and McFarland cases, in that the homicide had a similar motive and the defense was *insane impulse*. The paper of Dr. Jarvis on Mania Transitoria [Boston Medical and Surgical Journal, June 10 and 17, 1869] gives the bibliography of the subject up to that date. Dr. Krafft-Ebing published a treatise on the subject in 1868. Balfour Browne and Dr. Ray agree with other good authorities as to the occurrence of irresistible impulse to acts of violence, during which time only the underlying mental weakness becomes visible. That there is an underlying mental weakness is generally held by the best authorities, in opposition to the general opinion that a man may be sane the moment before and the moment after the impulsive act. The states most commonly giving rise to these sudden outbreaks are the epileptic, the melancholic, somnambulistic, delusion based on false hearing, and mania from drink.

The difficulty in Brown's case in deciding on the insanity lies in the overpowering moral cause for committing the homicide. It would not affect most men to the extent it did Brown, who, with unusual hereditary tendencies, was liable to become insane under a great mental strain. The attack was cumulative in character. If Brown had killed himself no one would have questioned his insanity. — Dr. WEBBER asked if the absence of remorse was not an indication pointing to insanity. — Dr. CHANNING said that he had found but little remorse among either sane or insane criminals.

He quoted J. Bruce Thompson, of the General Prison, Perth, Scotland, who says of four to five hundred murderers he had only known three who showed remorse.

APRIL MEETING. DR. J. H. DENNY read a paper on the Medico-Legal Study of Hallucination. The paper was particularly a study of the case of Kemner, the homicide. Great stress was laid on the physical manifestations of disease, and certain resemblances were traced between the cases of Kemner and Freeman. In each case there were sensitive fontanelles, præcordial anxiety, a pulse of 38 to 40, etc. — In discussing the paper Dr. C. F. FOLSOM said that he did not believe so fully in physical changes as Dr. Denny. Coffee would produce more marked changes in the brain than a case of insanity. — Dr. DENNY laid no special stress on any one symptom, but all together. He decided the case to be one of chronic mania, with Bright's disease. — Dr. WEBBER, in speaking of eye examinations, thought they were of little value in mental disease, and Dr. C. F. FOLSOM stated that they were now little relied on in German asylums. — Dr. J. B. AYER asked if hallucinations of hearing were not more often than others dependent on serious brain trouble.

Dr. FISHER remarked that the subject was of great importance, because delusion is so often based on hallucination or illusion. The significance of visceral illusion should not be overlooked. The snake-in-the-stomach and other delusions of hypochondria, false tumors and supposed pregnancy of women past the turn of life, the charges of ravishing in sleep or under chloroform by hysterical women, the beliefs of melancholics that they cannot swallow or that their bowels are gone, with hosts of other delusions, all arise from obscure morbid visceral sensations. In his experience "false hearing," or hallucination of hearing, occurs with very great frequency, especially in chronic insanity from drink; the delusions of conspiracy and persecution often being based solely on the imaginary voices which haunt the patient by night and day. This torment makes life a burden, by compelling constant and painful attention, and the patient may seek relief in suicide. More frequently this hallucination results in sudden acts of violence towards persons who are supposed to have insulted or injured them. The existence of false hearing may be, and often is, overlooked by physicians even, and punishment may very unjustly follow such acts of violence.

Dr. Fisher spoke of a patient who recognized the voices as subjective, and characterized this symptom as "think talk." Others complain of being talked to by telephone when going about the streets. Some think that God speaks to them in the voices, or that certain persons can hear them think or draw their thoughts from them by mysterious agencies, and then echo them back or answer them. This phenomenon is so real and startling to the patient, that it is not strange that persons of weak or disordered minds, and ignorant patients particularly, should be deluded about the matter. It is important to separate cases where there is real subjective hearing from others in which the delusion is primary, the reported conversation being a part of the delusion, as the diagnosis is more favorable in the latter instance. Illusions of hearing easily arise in a city which is full of street cries and unaccountable sounds, and should, also be distinguished from hallucinations.

Dr. Fisher suspected that prisons were breeders of false hearing in the sense of illusion, from the echoes of voices and sounds conveyed through ventilating flues and holes, no opportunity being afforded of correcting false impressions.

Hallucinations of other senses are much less common, but deserve careful study. In the case of Kemuler, reported by Dr. Denny, Bright's disease and injury to the head may have both been partly causative, both being now well-recognized causes of cerebral disturbance and insanity. The speaker had seen cases of delusion of the most systematic and thoroughly organized character, resembling, in a humble way, the famous historical case of Joan of Arc. When delusion runs in the channel of religious enthusiasm, the most astonishing results may follow.

MAY MEETING. DR. JELLY read a paper on Cases of General Paralysis. He alluded to the discovery of the disease, and then briefly described the symptoms, causes, duration, diagnosis, etc. His paper was founded on the treatment of twenty-five cases, and about half of these were detailed. Two of the number were women. — DR. FISHER spoke of the importance of the subject. The average age is thirty-eight. At the beginning the patient's sexual power is increased, but later lost, though the patient has an exaggerated belief in its existence. The remarkable cures reported from the use of blisters and iodide of potassium might have been in syphilitic cases. Dr. Fisher mentioned a case of general paralysis occurring in the wife of a parietic; it might have been due to excessive venery. Having made many autopsies in general paralysis, he had come to the conclusion that, while the gross morbid appearances are quite constant and uniform in kind and location, they do not differ essentially from those found in some other forms of chronic insanity. He had recently seen the brain of a dipsomaniac who died of phthisis after six months in a hospital for the insane, where the thickening of the membranes, the serous effusion and atrophy of the convolutions, were as great as in a marked case of general paralysis. There were no delusions or dementia in this case. He had also examined a number of brains after hardening in nitric acid solution, to determine the presence of the adhesions described by Crichton Browne as pathognomonic of this disease. He had found them less prominent and fewer in number than stated. The gross appearances seldom encroach on the occipital lobes. He doubted if from the gross or microscopical appearances alone it would be safe to infer general paralysis. — DR. BANCROFT had seen two cases due to mental shock, and two cases where mental symptoms had for a long time disappeared. — DR. J. B. AYER stated that the records of pulse and temperature were generally so imperfect as to have little practical value. — DR. CHANNING spoke of the importance of the spinal changes in general paralysis, and regretted that the cord was not oftener examined, as only in that way could we hope to make great progress in the pathology of the disease. Formerly atrophy of the optic discs was regarded as pathognomonic of general paralysis, but Gowers had recently stated that he had found nothing characteristic in the eye in this disease. Dr. Channing referred to the peculiar sphygmographic tracings observed in the pulse of paretics. He thought many cases were incorrectly diagnosed. He stated that out of one hundred and seventy-five insane criminals he had seen

only two clearly marked cases of general paralysis.¹ — DR. JELLY said, in reply to a question, that he had always found the mental symptoms first. — DR. PAGE said that asylum physicians seldom had an opportunity of observing cases early, and hence generally found mental symptoms well developed. — DR. DENNY thought the mental phenomena occurred the earlier. Fifteen years ago it had been supposed that general paralysis did not occur in women; now it was not rare among them. He regarded excessive venery and drinking as symptoms rather than causes. In this disease several observers had found the cerebral temperature the same in both parietal regions, instead of higher on the left, as in the healthy subject. — DR. WHITMORE regarded excessive venery due to loss of will power. In 1872 he had visited the Hanwell Asylum, where, out of a total of eighteen or nineteen hundred patients, only two women were paretics. — DR. DENNY stated that Dr. Klein had found in fifty-eight per cent. of cases examined by him a *trübung* or cloudiness of the optic discs.

Recent Literature.

Clinical Lectures on the Diseases of Women. By J. MATTHEWS DUNCAN, M. D., LL.D., F. R. S. E., etc. Philadelphia: Henry C. Lea. 1880.

These lectures, originally published in the *Medical Times and Gazette* and in the *Medical Examiner*, are here presented in the form of a book which is dedicated to Dr. Fordyce Barker. They are nineteen in number, and treat of various gynecological subjects, without any attempt whatever to cover the ground of this department of medicine. The author has certainly shown originality in making names whereby to call many of them; for example, Painful Sitting, Aching Kidney, etc. Whether this be an advantage or not may well be questioned. To us it seems better that the student should have the straightforward, well-recognized, and accepted names of diseases, based upon conditions referable to the anatomy or pathology of the parts, than that he should be confused by vague terms expressing symptomatic pains.

The matters of which the writer treats seem to lack proper analysis in his mind preparatory to delivery or publication. This is well illustrated by the first lecture, styled Missed Abortion, where, instead of anything like a systematic division into, or description of, the causes, symptoms, diagnosis, or treatment of missed abortion, one half the space allotted to the subject is devoted to an account of what missed abortion is not, with the relation of a case of missed miscarriage, etc. The author then encourages us by saying, "I now come to the subject proper of my lecture, Missed Abortion;" but here we are again disappointed, for he at once goes off into the subject of protracted pregnancies, the details of a case of missed labor, etc. Having finished the lecture, we are led to wonder where the subject proper is considered; for, except the details of a case on the last page but one, we fail to find much about it.

Comparatively little is said in regard to the treatment of the several diseases discussed; but, judging from the majority of the cases reported in illustration of the different subjects, we are forced to believe

¹ A statement recently corroborated by Dr. Knecht, of the Waldheim prison, in Germany.

that the best results were often lost from want of direct surgical interference, and that the let-alone treatment was too generally carried out. The book may be of value to those students who desire to retain in printed form the lectures to which they have listened, or to those who wish for a volume containing the special views of the author. As compared with other gynecological works which have recently been published, it is far below the average.

Homœopathy: What is It? A Statement and Review of its Doctrines and Practice. By A. B. PALMER, M. D., Professor of Pathology and Practice of Medicine in the University of Michigan. Detroit: George S. Davis. 1880.

A certain additional interest is attached to this statement and review of the doctrines and practice of homœopathy from the author's being a professor in the medical department of the University of Michigan, and from the book's having its origin in a course of lectures delivered to the students.

The author deprecates hostile denunciation and ridicule as affording favorable opportunities, which the homœopathic fraternity has not been slow to profit by, for appealing to public sympathy by the cry of persecution for opinion's sake. His object in the present book is to furnish conscientious and intelligent persons the means of learning what the system of homœopathy with which they are dealing, or which is appealing to them for support, really is. The book is a careful and candid examination of the essential doctrines of homœopathy as taught by its founder and more authoritative expounders, and presents a condensed statement of those doctrines. The style is moderate and dignified, and the statements careful and candid. We have been unable to discover exaggerations or misrepresentations, although stimulated thereto by a generous offer on the part of the author.

Modern Medical Therapeutics. A Compendium of Recent Formulæ and Specific Therapeutical Directions from the Practice of Eminent Physicians, American and Foreign. By GEORGE H. NAPHEYS, M. D. Seventh Edition, enlarged and revised. Philadelphia: D. G. Brinton. 1880.

The fact that this book has in a short time reached a seventh edition is evidence of the continued demand which exists for it. The present edition has been enlarged, improved, and revised, whilst the volume has been kept within its previous limits by using a smaller type for the *résumé* of remedies.

Emmet's Principles and Practice of Gynecology. By THOMAS ADDIS EMMET, M. D. Philadelphia: Henry C. Lea. 1880.

It must be exceedingly gratifying to the author that the profession so thoroughly appreciate the great labor expended upon his work and the important principles laid down therein, as evidenced by so early a demand for a second edition. It has apparently undergone a most careful revision. Many typographical errors have been corrected, and some subjects in which ad-

vances have been made within the year have received the author's attention. Our only criticism is that for a book so rich in original investigation, carefully prepared tables, details of cases, and practical illustrations, the pathology of the subjects discussed has unfortunately had too little consideration. It would be a work of supererogation to rehearse its many excellences, as they have so recently been set forth in this journal. It is sufficient to say that its value to every student of gynecology is inestimable.

— Says the *Medical Times and Gazette*, "The French medical journals express great admiration of a speech which Baron Larrey has just delivered before the Chambers on the debate on army organization. During more than two hours he succeeded in engaging the attention of his auditors so as to be able to place his whole case before them. That case was the emancipation of the medical service from the tutelage and domination of the intendance or commissariat department, whereby all original and independent action on the part of the medical body is entirely prevented in matters of their own immediate concern, and the welfare of the troops is sacrificed to routine and incompetence. Having been the chief medical officer in several campaigns, Baron Larrey spoke with an intimate knowledge of the facts, and showed by many examples how systematically the advice and wishes of the medical body in all sanitary matters is ignored by the intendance, and what mischievous effects have resulted from their being deprived of the power of originating and carrying out sanitary regulations. Those who wish for detailed information of the lamentable results which have attended this subserviency to the intendance have only to consult the works of the late Dr. Chenu. The present Baron Larrey, by his personal influence with the late emperor, was able to counteract some of the great mischief this state of things caused, but others less fortunately situated are powerless in all that relates to preventive medicine."

— Dr. Haley, of the Wangaretta Hospital, in a communication to the *Australian Medical Journal* for April, strongly recommends (having found it very serviceable) a new mode of employing pressure in orchitis when the acute stage, by the use of depressants, leeching, etc., has passed into the chronic stage. The ordinary modes of compression are often difficult of application and very uncertain in their operation. The patient having now an enlarged testis, with more or less tenderness, is directed to keep the recumbent posture, and to grasp the affected testis in the hand, employing pressure short of pain, the hand being assisted by the thighs being pressed upon it. This pressure is to be kept up almost continuously, which is readily done, the patient sometimes continuing to make the compression even when asleep. An important adjunct is bathing the scrotum and surrounding parts, two, three, or more times a day in cold water. In mild cases, and when the patient cannot conveniently lay up, he should wear a suspensory bandage during business hours, and resort to the hand-pressure whenever possible.

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TIME REQUIREMENT AS AN ELEMENT IN MEDICAL EDUCATION.

A RECENT editorial article in the *Philadelphia Medical Times* calls attention to the move lately made by the American Medical College Association, namely, that attendance on three annual courses of lectures should be required before granting a diploma. The colleges voting for this change, which our contemporary styles "the successful crisis of a revolution in medical education upon this continent," were chiefly the Southern and Western schools. Many prominent Eastern schools were not represented in the association.

The same article calls attention to the report of Professors Gross and Davis to the association, in which the statement is made that Harvard graduates men upon one year's attendance on medical lectures. In proof of which the following statement is made:—

"The language of their catalogue for 1879–80 touching this point is under the head of Division of Studies, as follows: 'Students may be admitted to advanced standing in the regular course, but all who apply for admission into the second or third class must pass an examination at the beginning of the year in the branches already pursued by the class to which they seek admission, and furnish a satisfactory certificate of time spent in medical studies.' Again, under the head of Requirements for a Degree, we are told that 'every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three full years; have spent at least one continuous year at this school; have presented a satisfactory thesis; and have passed the required examinations.'

"In turning to the examinations required in each year, we find those of the first year to be anatomy, physiology, and general chemistry; those for the second year, medical chemistry, materia medica, and pathological anatomy. Now, it strikes us that he must be a rather dull young man who cannot take the necessary books, get some regular practitioner to lend the use of his name as preceptor, and in two years make himself sufficiently familiar with the language of his text-books as to pass a fair examination, either oral or written, in anatomy, physiology, and general chemistry, in connection with at least two out of the following three: medical chemistry, materia medica, and pathological anatomy. And if he can do this he can step directly into the third or graduating class, and complete his course by attending one col-

lege year, without ever having set foot inside of any other medical school."

We are not surprised that those teachers who are accustomed to the standard of examinations of the old-time system should fall into an error such as that which has been committed by the two distinguished professors. A more careful study of the catalogue would have shown these gentlemen that the examinations alluded to were prepared to bring out knowledge which could have been acquired in the lecture-room and laboratory alone. For particulars concerning the length of time spent at the school by students we would refer them to the report of the president and treasurer of Harvard University for 1878–79. In 1879 there was one graduate who spent but one year at the school. He was a physician taking the graduate's course. In 1877 there were three, two of whom had already received their degrees, and one had spent eighteen months at another school. We find among the few cases mentioned one who had attended a course at no other school, but he had studied three years with a physician, and immediately after graduation he entered the army after a brilliant examination.

That it is desirable for a student to spend at least three years in school study we presume few will now deny, but that "time requirement" will effect this so thoroughly as severity in examinations we think extremely doubtful. The element of time, then, may be disregarded, provided a school can be trusted to maintain a sufficiently high standard of examinations. Until the members of the association have taken a long step in advance in this direction it will be safer for them to adhere to the "three-years term" of study.

A much higher ideal is that which, like the system in vogue in the academic departments of our greater universities, relies exclusively upon a carefully devised system of examinations to compel the student to follow the course of study which has been laid out for him.

We would not be misunderstood as not applauding the best work which the association has yet accomplished. It is an official recognition of the utter worthlessness of the old system, which, we trust, no faculty will hereafter have the face to announce in its annual catalogue.

THE BENEFITS AND PERILS OF DRINKING WATER.

A VERY timely and sensible article from the pen of Dr. S. G. Webber, on Water as a Prophylactic and a Remedy, makes its appearance in the last number of the *New York Archives of Medicine*. The subject is in several ways a suggestive one and will bear discussion. Formerly one of the chief characteristics of the typical American, in common with the habits of talking through the nose, cocking up the feet on top of the mantel-piece, whittling, and living in hotels, undoubtedly prominent in the minds of many and especially of those traveling amongst us, was the universal imbibition of enormous quantities of ice-water. In so

far as this practice really obtained it was the result of the promptings of a natural instinct created by the peculiarities of our climate, the gratification of which was eminently wise and wholesome. The practice probably was carried to an extreme, as most things in our energetic communities are apt to be, and that more particularly in the amount of ice used, and in the gulping down of large quantities of water at a low temperature immediately after or during violent exercise. Of such indiscretions dyspepsia, gastritis, and enteritis are, it must be admitted, frequent sequences. But attention having been directed to these excesses, an exaggerated reaction set in and has been carried the farthest by those who have the most leisure to ponder upon their personal physiological processes, until at present we believe it to be a fact, as stated by Dr. Webber, that many people have a notion that it is injurious to drink water at meals; and we may add that, to our knowledge, many children among the well-to-do and educated classes are deprived in summer of the amount of cool pure water demanded by their systems, and this deprivation is the act, not of a cruel jailer, but of careful, anxious mothers. In our summer weather the dangers of digestive derangements from an excess of cool (not frigid) pure water are small compared to that of such derangements and general malaise as result from a deficiency of this necessary solvent for the waste products of the system.

Dr. Webber justly says: "If too little water is ingested the perspiration will be slight, the elimination of urine will be diminished, and the excretion of waste material will be lessened. The blood will be continuously saturated with the results of disassimilation or nearly so, the removal of the waste of tissue-changes is not accomplished with sufficient regularity, and the tissues become clogged with used-up material, and nutrition is interfered with. The balance each day against health is very slight, but finally there is such an accumulation that unpleasant symptoms are developed. If the person continues to eat heartily, either the surplus food passes off by the intestines, or is deposited in the shape of fat, the nitrogenized portions assisting to load the urine with urea and urates. Let a person drink a larger amount, and, the blood having a sufficient supply of water, more urine is excreted; the loss is made good to the blood by absorption, and a larger amount of waste products is taken up to be eliminated; more urea, phosphoric and sulphuric acids pass off by the urine, which is increased in amount; there is more disintegration of the tissues. This loss is made up by new material, so nutrition is increased.

"Water taken with the food favors digestion; when taken into the stomach a part is absorbed by the gastric vessels, carrying with it the soluble constituents of the food. So much as is not immediately absorbed assists in softening and breaking up the larger particles of food, and thus aids in the gastric digestion by facilitating the action of the gastric fluids. A portion of the water is carried into the intestines with the semi-digested food and acts favorably in the same way; also, the blood being well supplied with water, the feces are not so hard and dry as would other-

wise be the case, and it is easier to keep the bowels regular.

It is certainly no matter of surprise that there should be malaise and distress, when the system is loaded with worn-out material, unfit for the functions of life, which the blood cannot remove for lack of menstruum; it is not surprising that the nervous system, which most requires regular nutrition, should suffer most; that muscles badly nourished should ache on motion; that kidneys called upon to secrete an abnormally concentrated urine should become diseased; that the highly acid urine should irritate the bladder.

"This view may explain why herb teas, thoroughwort, chamomile, sage, etc., were so popular in our grandmothers' days, indeed are now popular. The bitter herb is a slight gastric tonic, but the water is a better solvent. Formerly the good housewife supplied the deficiency in drink by regular doses of herb tea; now the physician supplies it by draughts of spring water."

It is useless to attempt to fix the quantity of water required by any individual. The temptations to over-indulgence are not so great but that most people may be left to discover it for themselves, and this they are the most apt to do when thinking the least about it. Fifty-two ounces, or about three and one third pints, is the daily quantity of drink which physiology considers necessary for the average healthy adult, and it is perhaps worth while to learn this, as one learns the distance of the sun or the circumference of the earth, as a standard of comparison.

Here the reader might suppose that our remarks should cease, that all had been said which needs saying on so simple a subject as water. Not so, however. The real difficulties of the problem have yet to be faced. The desiccated dyspeptic who has been persuaded to overcome his dread of becoming an aqueous dyspeptic and has consented to drink and be whole, and perhaps make the result sure by a trip to the country or abroad, presently returns with a number of the *Leisure Hour*, for example, in one hand, and of the *British Medical Journal*, we will say, in the other. From the former he selects for our consideration "some useful hints to tourists with respect to drinking-water," and reads aloud a graphic description of a case of typhoid terminating fatally at Dinan in Normandy last year, the victim being a tourist who was seduced into drinking freely of a hotel water which seemed bright, clear, and delicious. Our patient already knows all about nitrates and nitrites and albuminoid ammonia, and he informs us that it cannot be too urgently impressed upon those intending to go to the country, or to the sea-shore, or to remain in town even with their Cochituate, that only the exercise of unceasing vigilance will suffice to protect them from the snares besetting them round about in the shape of impure water and ill-ventilated rooms. If it is the *British Medical Journal* which he hands us, the Apollinaris Company, Limited, having, it may be, thoughtfully caused the number to reach him, our eye lights upon the following:—

WARNING TO TRAVELERS.

"A communication which we have received from a traveler describes a severe outbreak of typhoid fever in Switzerland, to be traced, it is stated, as most of such outbreaks are traced, to impure drinking-water. This frequent cause of disease to travelers will, in the end, scare away travelers to a considerable extent from continental travels, unless the local authorities of the principal towns of summer resort on the Continent manifest a more earnest determination to purify the air, soil, and water, and especially to provide a perfectly pure and undeniable source of drinking-water, which is rarely to be found at present in any continental town or village. Sir Henry Thompson, advertent to this abundant source of danger to travelers, recently recommended that every traveler should carry with him a filter and a teapot, by way of practically abolishing by personal care some of the danger of impure water by securing that it should be very thoroughly boiled before being used. Dr. Hermann Weber, whose experience of foreign resorts is perhaps greater than that of any other English authority, has published a similar warning to travelers, and has recommended them to use Apollinaris water whenever it is to be obtained, as an undeniably pure drinking-water, which would secure them from these dangers; and he has stated that he has known, in more than one instance, when members of the same traveling party have been careful to adopt this precaution, while others have neglected it, that those who adopted such precautions have been saved from typhoid fever, which attacked other members of the party. . . . Recent analyses by chemical authorities, of which some of the results are before us, have shown that the water contained in the siphons which are introduced at foreign *restaurants* is not more reliable than the ordinary water supply; indeed, a table before us, to which, perhaps, we shall subsequently have to refer, indicates that, in one great foreign city at least, the water in the siphons is very much more impure than even the ordinary city drinking-water, being in some cases little better than diluted sewage water. It appears that the manufacturers of these aerated waters in foreign siphons are by no means very careful from what kind of surface wells they draw their supply, or how they purify their water; and on the whole, the danger of drinking the aerated water of siphons is, unless the quality be definitely ascertained, greater even than that of drinking the ordinary impure water. . . . It is well, until they have become more enlightened, that travelers should regard drinking-water with precaution, and should be satisfied in some way or other that the table water they drink is of absolute purity, and such assurance is best obtained by confining themselves when traveling to the use of a natural mineral water, suitable for table purposes and of undoubted pure origin."

After a perusal of these remarks we involuntarily exclaim, Water! water! everywhere, but not a drop to drink! Death even lurks in our old friend the siphon! We presently begin to feel sorry, first for the British tourist, then for the native Swiss, thirdly for

our patient, who is evidently predestined to ill health on one side or the other, unless happily relieved by early death, and finally for ourselves that we should have ventured to advise in so intricate and desperate a question. After a period of hesitation, however, we recover our equilibrium in remembering with Dr. Weber that "human nature is such that if the doctor tells his patient to drink two or three pints of Cochituate or Croton water a day, in addition to his tea or coffee, he will rebel and think it a queer prescription; but if he is told to take that amount of Poland or Allendale or some similar water, he forthwith has his keg of mineral water on tap, and drinks in faith that it will in some mysterious way relieve his gout, rheumatism, dyspepsia, or kidney disease, or will be good for his headaches and tired brain."

With this comforting reflection the only doubt remaining in our minds is whether we shall invest in a mineral spring ourselves, or merely recommend the patient to, or both. Then in any case there would be an end to uncertainty, and we should know what to do and what to say.

MEDICAL NOTES.

— A review of Charles H. Blackley's book on Hay Fever in the *Medical Times and Gazette* contains the following: "The author has minutely detailed the results of his experiments, and a perusal of his observations will well repay any who are interested in careful work, though they do not seem to have added to our knowledge. It may be stated that the general outcome of the experiments is to prove that the pollen of certain grasses is the source of the disease, and this is nothing new. In Chapter VII. the author carries his investigations still further, and thus arrives at conclusions as to the amount of pollen which suffices to produce and keep up the disease. This amount is so infinitesimally small that in the hands of a less careful observer we might almost be excused a doubt. It is stated that 'rather less than the $\frac{1}{32,768}$ of a grain of pollen inhaled in each twenty-four hours will keep up hay fever in its severest form.'

"We can only just glance at the methods of treatment which are recommended. Drugs do not seem to have been very successful. The author knows of no specific, though many drugs are capable of mitigating the symptoms, and here again Dr. Blackley's researches leave us very closely where we were before. It appears that carbolic acid is the most effectual, acting probably in this disease much as it does in the so-called antiseptic dressings."

— From the *Lancet* we learn that at the adjourned meeting of the Court of Governors, held at Guy's Hospital on Wednesday, the 30th ult., the matters in dispute between the medical staff and the treasurer were referred for investigation and report to a special committee, consisting of the following gentlemen: Sir Thomas Acland, Sir Trevor Lawrence, Messrs. C. Barclay, R. Harvey, Samuel Hoare, and Shaw Stewart. We understand that the committee has at once commenced its sittings.

— The same journal says that the proposal to establish a university college at Liverpool appears to be receiving considerable favor. Already the sum of £60,000 has been collected in aid of the project, the amount required being £75,000, or an annual income of £3000.

— Under the head of Consultations Dr. H. C. Wood, of the *Philadelphia Medical Times*, writes: There is probably no city in the civilized world in which medical consultations are proportionately so infrequent as in Philadelphia. There is certainly a wide-spread feeling against calling them among the profession. This feeling is based not so much upon a question as to their value to patients as upon a fear that they will injure the physician who calls the consultant. Very many doctors evidently have the feeling that asking that Dr. Secundus be called in is equivalent to saying that Dr. Secundus knows more or is more skillful than they. It is true that a consultation may be asked for in such a way as to give rise to this impression, but this is the result of the awkwardness of the physician. A little tact on his part will leave behind the conversation with the friends of the sick the feeling that he is a very careful doctor, one who wants in every way to do the best possible thing for his patient, and will thereby strengthen rather than loosen his hold upon the family.

Talking, a few weeks since, upon this point with a neighboring practitioner, he said, "I never call any consultations. Some weeks ago Mr. — was ill, did not improve, and finally asked that I would call in Dr. Jones. I did so. The patient got well, and the family was transferred to the list of Dr. Jones." The family here was lost, not, as was thought, because the doctor was willing for a consultation, but because he was unwilling. If he had been quicker, and had suggested the consultation before the patient demanded it, Dr. —, having been called in at his request, would not have attended the family afterwards. For here come in the ethics of the matter. If Dr. Secundus is called in by the family in spite of the attending physician, he, to our thinking, is not justified in refusing afterwards to attend the family. On the other hand, if he is introduced or called in by the family doctor, he is bound by every tie of equity, and also of self-interest, to refuse to attend that family subsequently, even if pressed so to do.

The words that have just been written apply to a much wider district than our city limits. Some few weeks since, whilst upon a professional visit some distance from the city, we heard a doctor of the neighborhood roundly denounced for allowing a patient to die. On attempting a defense we were met with the statement, "What we blame Dr. — for is not the death of the patient, but that he did not give him the best possible chance by calling a doctor from the city. Money was no object to the family, and why did n't he tell them how ill the patient was, and suggest bringing some one from Philadelphia? Then if death had come, everybody would have been satisfied that all that could be done had been done."

The *raison d'être* of the consultation is not only

the physical benefit of the patient, but the satisfaction of the family.

— Spencer Wells is just now receiving well-deserved adulation in English medical journals. We copy this editorial from the *Medical Times and Gazette*: "Our readers will feel much interest in learning that last week Mr. Spencer Wells completed his thousandth ovariectomy, and will be gratified to know that the patient is going on well. The results of Mr. Wells's operations, completed or uncompleted, successful or not, have from time to time been, with exemplary loyalty and faithfulness, placed before the profession, and the grand statistical outcome of all the thousand ovariectomies he has now performed will, in due course, be brought before the Medical and Chirurgical Society. The record will constitute a singularly great and lasting proof—*monumentum ære perennius*—of Mr. Wells's distinguished and peculiar position among the great surgeons of the nineteenth century. It must have rarely happened, we imagine, that a surgeon has performed any one great operation a thousand times, and certainly, when we remember the opinions held some twenty-five or thirty years ago, by the most eminent surgeons of the day, regarding ovariectomy, the fact that one surgeon has now performed that operation on a thousand patients is one of the most remarkable and striking events in the history of surgeons. The continually increasing success that has attended Mr. Wells's performance of ovariectomy is pretty well known, but the full record of his cases will be expected with great interest."

ST. LOUIS.

— The season thus far has been a mild one, but the time is approaching when the hot weather will be upon us, and sunstrokes will occupy the attention of the medical staff. The St. Louis Medical Society has adjourned till the third Saturday in September, and surgical operations which will permit it are being postponed till fall; the present therefore offers a favorable opportunity to look back over the past year.

The uncertainty in regard to the number of the population of St. Louis makes us fear that we shall have to give up our claim to being the healthiest large city in the Union. We do not know what our population is, but we feel quite certain that it will fall very much short of our estimates.

The past year has had an unusually high percentage of recoveries in ovariectomies for St. Louis. During the year Dr. J. T. Hodgen has operated five times. Two of his cases died in two or three days after the operation, probably of septicæmia; a third progressed very favorably for eight days, when tetanus set in, and death resulted on the twelfth day. Until the tetanus began there was no fever. Upon post mortem the peritonæum was found to be healthy, showing no signs of inflammation. In the two other fatal cases there were extensive adhesions, the tumors were very large, and in order to cut the adhesions and to stop subsequent hæmorrhage it was necessary to keep the abdominal cavity open between one and two hours. The other two cases resulted favorably.

Dr. E. H. Gregory, with the assistance of Dr. N. B. Carson, has operated five times during this period,

with four recoveries. The first operation was performed December 29, 1879. The patient was fifty-five years old; the tumor was multilocular, weighing eighty pounds; there were adhesions to the intestines and omentum, the pedicle was thrown back into the abdominal cavity, and the case resulted favorably.

The second operation was performed April 15, 1880. The patient was fifty years old; the tumor was a single cyst and weighed thirty pounds; there were adhesions to the omentum and to the abdominal wall; three ligatures were used to secure the pedicle, which was returned to the abdominal cavity. The case resulted in recovery, the pulse only once rising above 100.

The third operation was performed May 20, 1880. The patient was twenty-two years old; the tumor was multilocular and weighed eighteen and a half pounds; a great deal of the tumor was solid; there were no adhesions; three ligatures were used; the pedicle was short, and was secured in the abdominal suture; the tumor also was closely crowded into the pelvic and abdominal cavities. The patient complained of dragging on the pedicle, and forty-two hours after the operation died, probably of diffuse peritonitis. No post mortem was permitted.

The fourth operation was performed May 26, 1880. The patient was thirty-six years old; the tumor weighed twenty-four and a half pounds (two and a half pounds were solid), and was multilocular; there were no adhesions; the pedicle was tied with three ligatures, and was thrown back into the peritoneal cavity. The result was recovery, the temperature never going above 101.75° F.

The fifth operation was performed July 15th, and on account of the heat was begun at six A. M. The patient was thirty-one years old; the tumor was monocular and weighed twenty-six pounds; there were extensive adhesions to the abdominal walls and to the omentum; the pedicle was short, was secured by two ligatures, and was thrown back into the abdominal cavity. The woman recovered, the temperature thirty-six hours after the operation rising to 100.75° F.

In all these cases every antiseptic precaution was used, and to that their success is chiefly attributed.

Dr. George J. Engelmann, who resumed practice December, 1879, after his illness, has removed a prolapsed ovary, a full account of which has been given in the JOURNAL of May 13, 1880. The patient made a rapid recovery, the wound healing by first intention. He also has performed a double ovariectomy, in which there were adhesions anteriorly to the bladder and omentum, and there were in addition some six or seven cysts adherent to the liver and diaphragm, which it was necessary to remove. In this case also the wound healed by first intention, and the patient recovered without a single unfavorable symptom.

Dr. P. V. Schenck, physician in charge of the St. Louis Female Hospital, performed quite a difficult ovariectomy. The patient was insane, forty-seven years old, and had been tapped a number of times. The operation was begun at eleven A. M. April 26th, and lasted three hours. The incision began at the

umbilicus and extended down to the symphysis; the anterior abdominal walls were extensively adherent to the tumor, and the uterus was enveloped in the cyst; there was no pedicle, and to apply the clamp a pedicle had to be made of the peritoneal covering of the cyst. The clamp was found to embrace the internal os uteri, so that it was a case of extirpation of the uterus as well as of the ovaries. The contents weighed about seventy pounds; the cyst was multilocular. The latter portion of the operation was hurried, as it was feared that the patient would die upon the table; the patient has had a favorable recovery. The operation was performed in the hospital, and under the spray.

Dr. Gust. Osann has operated once this year; heretofore he has been quite successful, but in this case the patient died during the operation, perhaps from chloroform.

Dr. F. J. Lutz has during the year removed successfully a cyst of the lateral broad ligament, which he reported at the Missouri State Medical Society.

Dr. A. C. Bernays has operated successfully three times, and has lost one case. Two of these successful cases occurred prior to the period which we are considering, and do not properly belong in this review. In the summer of 1879 he operated on one case, which died. June 14, 1880, he operated successfully upon his fourth case.

On the 19th of June Dr. William Barret performed a successful ovariectomy. The patient was a young woman, the tumor was good sized, but unfortunately was not weighed; the pedicle was returned to the abdomen.

This gives us a total of sixteen cases, with eleven recoveries, excluding Dr. Engelmann's removal of a prolapsed ovary, which is very good indeed, considering the past fatality of the operation in this region.

Miscellany.

TANNER'S TEST.

In the following editorial remarks on Dr. Tanner's Fast, published the last day of the exhibition, the *New York Medical Record* says all that need be said about it. We may merely add that we are probably only less glad than the faster himself that the performance is concluded, and that we can read our daily paper in peace without being reminded of a hospital record book. It is just as impossible to state that Dr. Tanner's fast was not honestly conducted as to persuade ourselves that it was. The vigor of his subsequent digestion is to us more surprising than the preceding abstinence.

"The exhibition at Clarendon Hall will come to a close to-day, if it has not done so sooner, and the attenuated experimenter, doubtless with much satisfaction to himself, returns to his normal diet. The principal items regarding his performance, that possess any scientific interest, have been published in the *Record*, and do not need repeating here. There has been, however, so much public comment from all sources upon the matter, that we are excusable in discussing the subject briefly now.

"It is undoubtedly the popular opinion that Dr. Tanner is honest, and that he ate nothing during the time of his fast. We are not disposed to deny the justice of this judgment. There is nothing in the character of the faster which would lay him under any particular suspicion. His past history has been that of a man of respectable character and of strong self-will, who has endeavored to lift himself out of an unsuccessful medical career by fanatically advocating various theories on the subject of electricity and fasting. In his present experiment he has been watched quite constantly by three sets of men, whose honesty or intelligence it is not fair to impugn. We do not think it strange, therefore, that he is generally believed to have kept the fast as he claims to have done.

"There are, however, certain other elements in the matter which rob his experiment, whether genuine or not, of nearly all its value. In the first place, it cannot be positively denied that he did not take any food. One set of his watchers was confessedly in sympathy with him, and wished strongly for his success. The regular physicians were not continuous in their attendance at first, and he was not always under their eye. Dr. Tanner was taken out to drive, went to the photographer's and the barber's, and took occasional strolls about the neighboring square. Finally, his physical condition was considerably different from that which all past experience has shown to follow abstinence from food. His surprising vigor, his occasional gain in weight, his comparative freedom from suffering of any kind, are phenomena which are not easily explained under accepted physiological laws. If to this is added the manner in which the experiment was conducted, — a manner which had the mixed character of a variety show and a patent-hammock advertisement, — we feel sure that the profession will agree that little practical or scientific value can be given to the alleged fast.

"Apart from this view of the matter, there were several unpleasant features connected with the exhibition. There was, for instance, an attempt all along to create the impression that the regular physicians were inimical to Dr. Tanner; that they believed the feat of fasting forty days a physical impossibility, and that his success in performing such a feat would be a blow to scientific medicine. This absurdity was fostered by a few indiscreet individuals who felt it their duty to appear in the daily newspapers. There has been, however, no physician, so far as we know, who has denied the possibility of accomplishing the fast. All that has been desired was that the experiment should be carefully conducted, so that some benefit might accrue to science in its performance.

"In denying any practical value to Dr. Tanner's performance, we might make one slight exception. The widely advertised announcement of the fact that a person had comfortably passed many days without food will lead many other persons to try the same thing, to a greater or less extent. If this is done under the guidance of good physicians, it may secure some definite knowledge of the therapeutic effect of fasting. There is no reason why it should not be of occasional value in cases of digestive trouble, obesity, etc. With the comfort of having given an impulse to this somewhat doubtful branch of therapeutics, and of having gained the ephemeral notoriety which he craved, we recommend Dr. Tanner to return to the simpler joys of his electrical baths and a normal diet."

MONUMENT TO CLAUDE BERNARD.

THE project referred to in the following communication is certainly worthy of the cordial support and encouragement of the medical profession in this country. Science, like humanity, overleaps all artificial boundaries. Medicine owes much to Claude Bernard, and we need not hesitate to aid in erecting a monument to the light of modern research among a people who have been so lately anxious to erect a monument to the light of freedom among ourselves. — ED.

MR. EDITOR, — Having been selected by the Paris committee (Messrs. Ranvier and Dumontpallier) having charge of the subscription for a monument or memorial to the late Professor Claude Bernard, to represent them in the United States, I beg leave to be allowed to use your columns for the purpose of appealing to the members of the medical profession and all others interested to subscribe to this worthy project. I need hardly remind your readers of the great debt which every practicing physician owes to the labors of the illustrious physiologist whose memory we are asked to honor in this way. All inquiries and subscriptions, in the shape of bank checks or postal money orders, should be addressed to me.

Yours, very respectfully, E. C. SEGUIN, M. D.

PLATED WIRE.

MR. EDITOR, — I see by the JOURNAL of July 22d, that Thomas F. Quimby, M. D., of Minneapolis, Minn., makes inquiry in regard to nickel plating of iron wire, as a substitute for silver. I would suggest to the doctor, through the JOURNAL, that if he will take the trouble to use *lead wire* instead of silver or any other metallic wire for sutures, where metal is preferred, he will not, I think, have reason to regret it. For the last twenty-five years or more I have been in the habit of using only lead wire in all operations, especially where mucous membranes were involved. It has never failed to remain, without the slightest ulceration, any length of time required to effect a cure. Any size wire may be used, ranging from about forty-five to fifty-six (Stubbs gauge). A very easy way of introducing the wire is to shave off about half the thickness at one end, and bend it over a short loop of thread passed through the eye of a needle. In confining the stitch the ends may be twisted or bent and hooked together; either is safe. Lead wire is very pliable, easily put into any shape desired, and amply strong for any purpose in surgical operations. It will give perfect satisfaction if used in closing up laceration of the perinæum, recto-vaginal fissure, etc.

H. H. HILL, M. D.

AUGUSTA, ME., August 3, 1880.

POISONING BY AQUA AMMONIA.

MR. EDITOR, — Owing to its pungent odor, poisoning by preparations of ammonia is of such rare occurrence that I forward for publication a brief report of the following typical case. On July 9, 1880, T. J., aged forty-seven, who for three weeks had been stupefied with alcohol to the almost entire exclusion of ordinary food, was given, by mistake, four tablespoonfuls from a bottle of aqua ammonia which was in the house for laundry use. After sniffing the draught and remark-

ing in a wandering way that it smelled pretty strong, he drank it rapidly, not, however, quite draining the cup. He immediately rejected some of the liquid from the mouth, and soon afterwards vomited, probably discharging a portion from the stomach. A terrible burning sensation of the mouth and fauces at once ensued; not until two hours afterwards did he complain of soreness any lower down, and at no time did that become a marked symptom. No antidote was administered until about three quarters of an hour after the accident, when a neighbor gave him nearly half a tumbler of vinegar, diluted. Prior to my arrival, which was fully an hour and a half from the time that the poison was taken, he had vomited twice, the last matter ejected being about four ounces of liquid, colored a bright red by blood.

At that time the mouth and throat were red and burning, the pulse 96, the skin cold and covered with moisture. More vinegar was given, which was succeeded by a slight eructation of gas. Half an hour afterwards he again vomited bloody liquid. Demulcent drinks and anodynes were ordered for the night.

July 10th, A. M. Pulse 144. The temperature was normal, reaction having set in a few hours after the accident occurred. He had slept none, had had one

normal movement of the bowels, and had just begun to manifest a marked hoarseness. Five P. M. Pulse 124; temperature 100.6° F.; tongue dry; deglutition difficult. The hoarseness had increased, and respiration was accompanied by a tracheal or faucial râle. The abdomen had become tense and tympanitic. He had taken some nutritious drinks and several glasses of beer; had had one large bloody dejection.

July 11th. Pulse 144; temperature 102.5° F. The patient took nutriment well, requiring little anodyne, slept fairly, and raised but little sputa.

July 12th and 13th. The fever was nearly gone, but the pulse continued equally rapid. The mouth was dry and dark colored, the expectoration slight. An occasional dark dejection occurred; no vomiting. At four o'clock, P. M., he repeated more emphatically than ever his expectation of a fatal issue. From that hour he kept his bed, although previously he had frequently been up and walking about. During the night of the 13th he vomited repeatedly, but otherwise appeared to suffer little. Early in the morning of the 14th, four days and a quarter from the time of taking the poison, the case ended fatally.

LUCIUS F. C. GARVIN, M. D.

LONSDALE, R. I.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 31, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	625	286	38.56	27.84	5.44	5.28	.96
Philadelphia.....	901,380	378	166	26.72	20.63	4.76	1.32	2.38
Brooklyn.....	564,400	301	163	35.54	28.93	5.31	2.65	1.32
Chicago.....	—	227	149	41.84	31.27	4.40	7.05	.88
St. Louis.....	—	135	64	31.11	20.00	4.44	.74	.74
Baltimore.....	393,796	162	79	33.95	14.19	1.24	3.72	1.24
Boston.....	365,000	242	131	54.54	46.28	2.89	5.37	.41
Cincinnati.....	280,000	88	51	26.13	15.91	4.54	2.27	2.27
New Orleans.....	210,000	76	24	19.73	7.89	6.58	1.31	2.62
District of Columbia.....	170,000	69	34	—	—	10.15	2.89	4.33
Buffalo.....	—	49	23	38.77	30.61	2.04	2.04	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	—	63	38	46.03	27.00	6.35	4.77	3.18
Milwaukee.....	127,000	83	65	32.53	27.71	6.02	2.40	1.20
Providence.....	102,000	47	23	48.93	34.04	6.38	2.12	6.38
New Haven.....	60,000	27	16	44.44	40.74	11.11	—	3.70
Charleston.....	57,000	35	12	14.28	8.57	2.85	—	5.70
Nashville.....	37,000	27	12	40.74	11.11	11.11	—	11.11
Lowell.....	54,000	31	14	41.93	41.93	9.68	—	—
Worcester.....	53,000	35	22	57.14	54.28	—	—	—
Cambridge.....	50,400	31	18	48.39	41.93	9.68	—	—
Fall River.....	49,000	—	—	—	—	—	—	—
Lawrence.....	38,600	21	16	47.62	38.10	9.52	—	4.76
Lynn.....	34,000	27	11	55.55	40.74	3.70	3.70	7.40
Springfield.....	31,800	16	12	56.25	56.25	—	—	—
New Bedford.....	27,200	17	7	58.82	52.94	—	5.88	—
Salem.....	26,500	14	7	50.00	35.71	—	7.14	7.14
Somerville.....	23,500	16	10	62.50	62.50	6.25	—	—
Chelsea.....	21,000	11	3	45.45	27.27	—	18.18	—
Taunton.....	20,200	8	—	12.50	—	—	—	—
Holyoke.....	18,400	11	4	27.27	27.27	27.27	—	—
Gloucester.....	17,300	18	16	72.72	61.11	—	—	—
Newton.....	17,300	—	—	—	—	—	—	—
Haverhill.....	15,350	13	6	23.07	7.69	—	—	—
Newburyport.....	13,500	8	3	12.50	12.50	—	—	—
Fitchburg.....	12,600	5	2	40.00	26.00	40.00	20.00	—
Twenty Massachusetts towns.....	145,610	67	22	32.83	26.86	1.49	2.98	—

Deaths reported, 2983; 1509 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1126, diarrhoeal diseases 825, consumption 379, lung diseases 145, diphtheria and croup 104, typhoid fever 46, scarlet fever 37, whooping-cough 36, malarial fevers 30, cerebro-spinal meningitis 20, measles 16, erysipelas seven, small-pox four, typhus fever one. From *scarlet fever*, Chicago and Baltimore nine each, Pittsburgh four, New York, St. Louis, New Orleans, Buffalo, Providence two each, Brooklyn, District of Columbia, Lawrence, Gloucester, Northampton one each. From *whooping-cough*, Boston eight, New York six, Nashville five, Philadelphia four, St. Louis three, Brooklyn, Chicago, Boston, District of Columbia two each, Cincinnati, Pittsburgh one each. From *malarial fevers*, New York eight, St. Louis seven, Brooklyn five, Philadelphia, New Orleans three each, Chicago two, Baltimore, District of Columbia one each. From *cerebro-spinal meningitis*, New York five, Baltimore three, Chicago two, St. Louis, Boston, District of Columbia, Pittsburgh, Milwaukee, Cambridge, Lynn, Taunton, Haverhill, Northampton one each. From *measles*, Cincinnati four, New York, Boston two each, Chicago, Baltimore, New Orleans, Pittsburgh, Providence, Cambridge, Gloucester, Haverhill one each. From *erysipelas*, New York three, Baltimore two, Boston, Worcester one each. From *small-pox*, New York, Philadelphia two each. From *typhus fever*, Buffalo one.

Twenty cases of diphtheria and croup, 15 of scarlet fever, three of whooping-cough, four of typhoid fever, were reported in Brooklyn; 14 of diphtheria, two of cerebro-spinal meningitis in Boston; eight of diphtheria in Milwaukee, where deaths under five years were very numerous (65 out of 83), owing to severe heat; three of diphtheria, two of measles, 11 of scarlet fever, three of typhoid fever, nine of diarrhoeal diseases, in Providence; one of diphtheria in New Bedford.

Total deaths about the same; deaths under five diminished;

deaths from diarrhoeal diseases likewise diminished. Deaths under five diminished in New York, Philadelphia, Chicago, and St. Louis; increased in Brooklyn, Boston, and Cincinnati.

In 35 cities and towns of Massachusetts, with an estimated population of 957,610 (population of the State about 1,690,000), the total death-rate for the week was 31.82 against 28.09 and 23.89 for the previous two weeks.

For the week ending July 10th, in 149 German cities and towns, with an estimated population of 7,651,474, the death-rate was 30. Deaths reported, 5431; 2689 under five: pulmonary consumption 440, acute diseases of the respiratory organs 255, diphtheria and croup 112, scarlet fever 78, typhoid fever 69, measles 62, whooping-cough 59, puerperal fever 22, small-pox (Dresden two, Wiesbaden) three. The death-rates ranged from 17.1 in Augsburg to 48 in Königsberg; Breslau 37.9; Munich 39.7; Dresden 28.1; Berlin 46.5; Leipzig 17.9; Hamburg 23.5; Hanover 23.5; Bremen 22.9; Cologne 42.6; Frankfurt 18; Strasburg 29.7.

For the week ending July 17th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.1. Deaths reported, 2892: acute diseases of the respiratory organs 176, diarrhoea 258, scarlet fever 117, whooping-cough 86, measles 53, fever 31, diphtheria 19, small-pox three. The death-rates ranged from 16 in Portsmouth, Leicester, and Bristol to 27 in Norwich; London 20.5; Birmingham 17; Manchester 21. In Edinburgh 17, Glasgow 19, Dublin 30.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 36 deaths from diarrhoeal diseases, 20 from acute diseases of the respiratory organs, scarlet fever five, whooping-cough four, diphtheria and croup three, typhoid fever two, measles one. Death-rate of Geneva 25.8; of Zurich 29.2; Basle 25.5; Bern 33.2.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
July 25	30.035	71	85	63	94	59	76	76	W	E	SW	5	6	9	F	F	F	—	—
" 26	29.937	79	85	69	75	56	76	69	S	SW	SW	10	11	6	T	C	F	—	—
" 27	29.965	74	89	67	80	47	70	65	W	SW	NW	5	4	4	O	F	F	—	.10
" 28	29.973	67	75	60	43	36	89	56	W	NW	W	11	13	2	C	F	C	—	—
" 29	29.903	62	75	55	65	37	65	55	NW	NW	W	12	11	11	C	F	C	—	—
" 30	29.985	66	78	52	69	37	64	56	W	W	W	9	12	7	C	F	C	—	—
" 31	30.070	75	87	60	63	36	60	53	W	SW	SW	10	11	10	H	F	C	—	—
Week.	29.981	71	89	52				62										1 30	.10

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 31, 1880, TO AUGUST 6, 1880.

STRONG, NORTON, first lieutenant and assistant surgeon. Assigned to temporary duty at Fort Douglas, Utah. S. O. No. 70, Head-Quarters, Department of the Platte, July 31, 1880.

BOOKS AND PAMPHLETS RECEIVED.—Braithwaite's Retrospect of Practical Medicine and Surgery. Part LXXXI. New York: W. A. Townsend. 1880. (From A. Williams & Co.)

By-Laws of the Middlesex North District Medical Society. Adopted April 28, 1880.

Questions submitted to the Graduating Classes of the Medical College of Ohio from 1871-72 to the present time. Cincinnati.

Register of Obstetric Cases. Published by Doane & Greenough, Boston. (From A. Williams & Co.)

Lunacy Reform. IV. The Right of the Insane to Liberty. By E. C. Seguin, M. D. (Reprint.)

On Occipital Headache as a Symptom of Uræmia. By E. C. Seguin, M. D. (Reprint.)

Trustees, Faculty, and Graduates of Detroit Medical College. List of their Names from 1869 to 1881, with Addresses of Graduates. Detroit, 1880.

Official Register of Physicians and Midwives to whom Certificates have been issued by the Illinois State Board of Health. Springfield, 1880.

Lectures.

TREATMENT OF DISEASES OF THE LARYNX.¹

BY E. FLETCHER INGALLS, M. D.,

Lecturer on Diseases of the Chest and Physical Diagnosis, and on Laryngology in the Post Graduate Course, Rush Medical College.

GENTLEMEN.—Having pointed out in my recent lectures the symptoms and signs which will enable you to diagnose diseases in the larynx, I wish this morning to call your attention to the methods of treatment for the most common diseases, which may be best employed by the general practitioner.

IN ACUTE LARYNGITIS,

If the patient is brought to us sufficiently early, our first effort should be to abort the attack; for this purpose it is customary to give at bedtime ten grains of Dover's powder, or from six to ten grains of quinine, or a hot "sling," either one of which will frequently enable the patient to rise in the morning comparatively well; or, instead of these, aconite may be given, or the fluid extract of jaborandi; either will answer much the same purpose as the Dover's powder. Theoretically, jaborandi should be a very valuable remedy in such cases, but generally I have failed to get a good article when I have prescribed it. In a few cases it has acted very satisfactorily, but in others the discomfort which attends its physiological action has been very great on account of the salivation, and often nausea and vomiting.

A gentleman of my acquaintance once took half a drachm of the fluid extract, and went immediately to bed, hoping to fall asleep before the diaphoresis began. He describes the effects as follows: "In about twenty minutes I felt my mouth fill with saliva, and on rising to expectorate it perspiration started from every pore; my mouth was scarcely emptied before expectoration was again necessary, and this continued until the act became so tiresome that I was obliged to hang my head over the edge of the bed and allow the saliva to run in a steady stream; the sweat poured from every part of my body almost in streams, and saturated the bed clothing; this continued for about three hours, the monotony varied only by occasional vomiting, and at about the end of two hours a cessation in the flow of saliva, which, however, promptly returned when I moved to arrange myself for sleep."

This remedy might doubtless be taken in the daytime without proving so uncomfortable as at night, when the patient wants to sleep.

Failing to abort the attack, you will next resort to remedies which diminish the fever and lessen the inflammation or favor its speedy resolution. With this in view the bowels should be gently acted on by saline cathartics, and you may administer opiates internally in small and repeated doses, giving about one thirtieth of a grain of morphia or its equivalent every half-hour, or less frequently, or you may give grain doses of compound ipecac powder, or small doses of other narcotics. Aconite might be given with good results in doses of half a drop every fifteen minutes for a couple of hours, subsequently diminishing the frequency and increasing the size of the dose to one or two drops every two hours. In view of the danger from oedema, some are in favor of administering early a free purge of calomel, and subsequently using the mercurial in small and frequent doses. The inhalation of steam, or

steam impregnated with volatile anodynes, is usually beneficial. The atmosphere of the room should be kept moist, and at a temperature of about 70° F. or 75° F.

With children, the steam from a kettle may be kept playing near their mouth, and older persons may inhale from the spout of a teapot filled with warm water, or from an ordinary steam atomizer. When the patient inhales the vapor from warm water, the addition of some anodyne is desirable, such as one ounce of compound tincture of benzoin, or the same with two to five drops of chloroform, or eight grains of the extract of conium, or an ounce of lupulin rubbed up with half a drachm of carbonate of sodium and a little water, and added to the pint of water at 150° F., as, for instance, two or three grains of carbolic acid to half an ounce each of glycerine and water, or mild astringent solutions with or without small quantities of opium or belladonna. For these you may employ a couple of grains of sulphate of zinc to an ounce of water, or tannin in about the same proportion, or acetate of lead.

If there is much pain in the throat, or the person is restless, the amount of opium given internally may be increased, or you may add some of the watery extract of opium or belladonna to the solution which is used for atomization; in many cases the camphorated tincture of opium, or the compound tincture of benzoin, acts very pleasantly, whether used as a vapor in the warm water or as a spray by the steam atomizer.

Strong topical applications cannot be made by the general practitioner, and are of doubtful efficacy, even when properly applied. Strong solutions of the mineral astringents, especially from sixty to one hundred and twenty grains of nitrate of silver, are highly extolled by some physicians, but in the majority of instances patients seem to get along better without them.

If oedema of the larynx supervenes, the case tends to a fatal issue unless promptly checked or relieved. The best method of treatment is scarification of the mucous membrane so as to allow escape of the serum which has collected in the submucous tissues. Scarification of the epiglottis and occasionally the superior portions of the larynx can usually be performed by the general practitioner by the aid of a long bistoury, around which has been wrapped, to within a quarter of an inch of its point, a piece of adhesive plaster for the purpose of avoiding injury to the tongue.

By the aid of the laryngoscope we are enabled to scarify the deeper portions of the larynx more carefully and effectually. This is the best treatment, but where it cannot be practiced the administration of emetics is sometimes followed by good results, due to the act of vomiting, which occasionally causes rupture of the mucous membrane.

The fluid extract of jaborandi might be given in some of these cases with benefit. In one instance in which I employed it the oedema was greatly relieved. If efforts to relieve the oedema fail, and the obstruction to respiration increases, tracheotomy will become necessary.

Frequently a subacute form of inflammation follows acute laryngitis, and may continue for a long time. This will require the application of stronger remedies. The general physician may apply them by means of an atomizer with a long tube properly bent to throw a spray into the throat, the patient being directed to respire deeply, or to sound a prolonged, high-pitched note during the application. For this purpose almost any of the mineral astringents may be used in moder-

¹ Phonographically reported for the JOURNAL.

ately strong solutions, or various powders may be thrown into the larynx, but these latter are not so desirable as topical applications of the stronger astringents by means of a brush. For application with a brush or sponge we may use sulphate or chloride of zinc, twenty or thirty grains to the ounce of water, or water and glycerine, or twenty grains of the perchloride or persulphate of iron; one hundred and twenty grains of sulphate of iron, ten grains of sulphate of copper, or twenty to thirty grains of alum to the ounce of fluid, may be used in a similar manner. Some physicians prefer nitrate of silver in solutions varying in strength from twenty to even one hundred and twenty grains, but the other astringents seem to act equally as well, and are less likely to be painful. Counter irritation at the upper part of the sternum or upon the back of the neck will sometimes be found useful.

ACUTE LARYNGITIS IN YOUNG CHILDREN

requires more vigorous treatment than in adults, because of the small size of the larynx, and the greater liability to spasm of the glottis. In treating these cases the warm bath should be used at first to relieve the engorgement of the mucous membrane and tendency to spasm. The atmosphere of the room should be kept moist by steam, and the temperature kept up to 80° F. or 85° F., and when possible the little patient should be induced to inhale steam from the atomizer. Frequently young children become very much alarmed by the atomizer, when brought close to their faces, but they will get some benefit from it though it is placed three or four feet away. A great deal of benefit will frequently be derived from warm fomentations, care being taken to keep the parts constantly warm and moist. For this purpose poultices of flaxseed are as good as anything, or you may use cloths wrung out of hot water, or spongipilin with warm water, which is an elegant application; whichever of these is employed it must be kept constantly hot, for if allowed to cool it will do more harm than good. If these cannot be kept warm it is much better to apply dry cloths. Turpentine stupes to the neck have also been found beneficial. If there is much tendency to spasm, the compound syrup of squills may be given, or small doses of belladonna, which not only relieve the spasmodic tendency, but possibly have some specific curative effect on the mucous membrane of the throat.

If œdema comes on, you should make an effort to scarify the part, but generally this cannot be effected in young children; failing in this, by passing the finger over the base of the tongue, you will sometimes be able to tear the mucous membrane with the nail, and thus allow the serum to escape. If you cannot relieve the œdema, and the dyspnoea continues to increase, do not hesitate to resort to tracheotomy, which holds out very good chances for recovery.

In a few rare instances of acute laryngitis in young children, the dyspnoea seems to be due to inflammation of the posterior crico-arytenoid muscles, which are the abductors of the vocal cords. The glottis during respiration in health is a triangular chink, but with paralysis of these muscles the cords are drawn together during inspiration, so as to greatly interfere with the ingress of air. In one case of this sort, reported by Dr. J. Solis Cohen, it was found that the application of ice bags to the neck every minute for about eight hours succeeded in inducing reflex respiratory movements, which carried the child over the critical period.

IN SUB-ACUTE LARYNGITIS,

which is the form of affection found in ordinary colds, the treatment is generally attended to by the patient himself: if consulted, you should manage the case as one of mild laryngitis, taking care to prevent exposure to cold, keeping the patient in his room, and applying the milder remedies recommended for the acute affection.

PHLEGMONOUS LARYNGITIS

is a very grave affection, and therefore calls for more vigorous treatment. Early in the disease, the application of leeches along the edge of the sternum, or in the inter-clavicular notch, has been recommended, and you should at once have recourse to fomentations and the inhalation of steam, more or less impregnated with opium or belladonna according to the amount of distress. Subsequently, the case should be treated upon the supporting and stimulating basis, consisting of nourishing diet, alcoholics, and quinine and iron. The diet should be fluid, and, as the patient will ordinarily be unable to swallow, it must generally be given by enema. Quinine may be given hypodermically if the patient cannot swallow, or by enema. In this disease, scarification is of very little benefit. Tracheotomy is indicated when the patient suffers much dyspnoea, but is usually fruitless.

IN ERYSIPELATOUS LARYNGITIS

the inhalation of steam is beneficial, and when impregnated with anodynes it will add much to the patient's comfort. Frequently emetics are useful in young children, for the sake of clearing the throat. The most desirable emetic in such cases is alum or the sulphate of copper; alum would usually be the best, but neither causes subsequent prostration. Benefit has also been obtained in these instances, by causing the patient to hold small bits of ice in his mouth.

Some specialists have found benefit from the topical use of very strong solutions of nitrate of silver.

Tracheotomy is indicated if dyspnoea becomes urgent, but usually it will not save the patient.

TRAUMATIC LARYNGITIS

is an affection which any of you are likely to be called upon to treat, especially that form resulting from the inhalation of steam by young children. The most satisfactory treatment consists of the inhalation of steam more or less impregnated with substances which relieve the smarting, and anodynes used internally or hypodermically, to relieve the pain and restlessness. At the same time the patient should be well nourished, and stimulation may be found necessary very soon. The constant application of bags of ice to the neck, and sucking bits of ice, are also beneficial. Considerable relief from the smarting in the mouth and throat is obtained by the inhalation of atomized solutions of the acetate of lead, or carbonate of soda; mucilaginous drinks, as, for instance, flaxseed tea, or barley water, will also be found beneficial. These drinks are frequently very distasteful to the patient, but if acidulated with a little lemon juice, they become quite palatable.

Calomel is recommended in doses of two or three grains once an hour, until relief is obtained. I dislike to give it, but it has the sanction of high authority.

œdema comes on very soon, and if it should cause much obstruction to respiration, tracheotomy must not be delayed, for if it is, the chance of success will be much less, or the patient may suddenly die from suf-

location. The œdema seldom extends below the glottis, therefore the operation is generally successful if performed sufficiently early, but if the blood is allowed to become surcharged with carbonic acid, the relief afforded does not come soon enough to prevent the cerebral or pulmonary complications which are likely to result from the congestion.

ABSCESSSES OF THE LARYNX

are likely to cause death by asthenia or apnoea. The treatment should be supporting from the first, and if possible to reach the abscess, it should be opened; but if this cannot be done tracheotomy should be performed as soon as the dyspnoea becomes urgent.

ŒDEMA OF THE LARYNX.

In this affection ice bags applied to the neck or ice held in the mouth will give considerable relief, and applied in spray, powder, or by the brush, it will be found beneficial, but scarification is the most rational treatment, and it has the advantage of giving immediate and usually permanent relief. Chronic œdema is not much improved by scarification, because it usually depends upon a fibrinous exudation, instead of serum, but the application of strong mineral astringents is likely to give some relief.

IN SUB-GLOTTIC ŒDEMA,

occurring just beneath the vocal cords, the various topical applications are almost useless. Usually the œdema is due to a fibrinous exudation, so that even if scarification could be practiced, it would be without result. In these cases dyspnoea can only be relieved by tracheotomy, and subsequently the tube must be constantly worn in the majority of cases.

CROUP

may be beneficially treated in much the same manner as acute laryngitis. The patient should be kept in a room with moist atmosphere, at a temperature of about 85°. Hot fomentations may be applied to the neck; emetics are valuable to clear the throat of mucus, and occasionally they aid in detaching false membrane, but only those should be used which have no depressing effects, such as alum, sulphate of copper, or turpeth mineral; and iron and quinine may be needed. Chlorate of potassium seems to have a good effect in some instances, and in others, small doses of the permanganate of potassium have given very satisfactory results. The insufflation or internal use of sulphur has been greatly lauded by the laity recently, and has been tried very generally by the profession, apparently with some success. Inhalations of the vapor from slacking lime, or atomized lime water, are often very useful in promoting the disintegration and detachment of the false membrane.

The patient should take these inhalations very frequently, every twenty minutes or half-hour. Vapor from slacking lime may be obtained by dropping bits of lime into a basin of hot water and holding over it a piece of paper rolled into the form of a funnel, which will collect the vapor and direct it into the patient's mouth, or the basin may be placed near the patient's head, and both be covered with an apron or sheet.

Lime water may be used with the hand atomizer, or better still with the ordinary steam atomizer. If this treatment does not answer the purpose, you should try a solution of one grain of bromine and five to sixty

grains of bromide of potassium to the ounce of water, used in the same manner as the lime water; or the two may be used alternately.

The tendency to spasm which nearly always exists in true croup should be met by the administration of opium or belladonna, which will render the disease a little less dangerous. Considerable benefit seems to have been derived in some cases from the application of bags of ice to the neck.

In croup, the results of tracheotomy are not nearly so satisfactory as in acute laryngitis, or œdema following injury to the throat; however, the operation should be resorted to in case dyspnoea becomes urgent. The chances of success will be greatly increased by an early operation; therefore as soon as there is lividity of the lips and falling in of the soft parts of the chest during inspiration, tracheotomy should be performed, for unless relief is obtained, death is certain. Be sure of the diagnosis, and then operate early, and you may hope to save from twenty to fifty per cent. of your patients. Late operations are not nearly as successful, and without tracheotomy, well marked cases of croup are fatal to the extent of about ninety-five per cent.

During convalescence from croup, the patient should be confined to the house for several weeks, and great care be taken that the body is not chilled by changes in the temperature or clothing. If the patient is allowed to go out, a recurrence of the attack is quite probable.

I lately saw, in consultation, a little child who was, at the time, almost comatose from obstruction to the respiration by croupy exudation. The remedies which were being employed, aided by the inhalation of vapors of lime water, had such a beneficial effect that on the following morning the child seemed almost well. The next day the people allowed it to play in the street, and the next day it was buried.

After convalescence from croup, frequently the voice remains hoarse for a number of weeks or months; this is due to subacute inflammation, paresis of the vocal cords, or perhaps to the formation of morbid growths within the larynx. Time usually effects a cure.

LARYNGISMUS STRIDULUS: SPASMODIC OR CEREBRAL CROUP.

During the paroxysm, an attempt should be made to relax the spasm by slapping the back, buttock, etc., dashing cold water in the face, cold sponging, or by the warm bath. After the paroxysm, you must attempt to remove the cause of the spasm; this, you will recollect, may be found in the alimentary canal, prepuce, spinal cord, or brain. If you find swollen gums, lance them; if an overloaded stomach, give emetics; if you find the bowels irritated by undigested food, give a dose of castor oil; if there is phimosis and irritation of the glans, circumcise; or if the cause seems seated in the brain or spinal cord, give bromide of potassium.

The affection in children is usually associated with slight catarrhal laryngitis, and the spasm is perhaps most frequently excited by an overloaded condition of the stomach. In such cases, turpeth mineral in doses of one fourth to one half grain, or the compound syrup of squills in doses of fifteen to thirty drops every fifteen minutes until vomiting is produced, and subsequently moderate doses of bromide of potassium or oxide of zinc and extract of hyoscyamus, is a prompt and efficient course of treatment. Following the attack, iron or small doses of belladonna will be useful.

Cod liver oil, etc., are indicated to improve the general condition.

This disease, especially in adults, is occasionally due to paralysis of the posterior crico-arytenoid muscles, which allow the vocal cords to fall together during inspiration and thus obstruct the entrance of air. In cases of this sort, if they are at all persistent, tracheotomy should be performed to remove the immediate danger, and allow the patient time to recover from the cause of the paralysis. After tracheotomy, the application of electricity, internally or externally, to the larynx, would seem to be indicated, but it has not proven very successful. The administration of tonics, including strychnia, is usually followed by good results.

CHRONIC LARYNGITIS

is usually a difficult disease to manage, because the treatment must be prolonged and the patient is very likely to become discouraged. In mild cases, by attending to the general health, placing your patient under as good hygienic conditions as possible, and administering such simple tonics or laxatives as may seem indicated, you will be very likely to get a good result without topical applications. A cure may often be hastened by causing the patient to inhale the spray, two or three times a day, of a mild solution of some vegetable or mineral astringent. Tannin is the most common remedy for this purpose, but sulphate of zinc is a little more pleasant. It should be used in the proportion of about two grains to the ounce of water; or we may employ in the same manner sulphate of copper, one or two grains; or acetate of lead, two to five grains to the ounce. These remedies are to be used when the amount of secretion is considerable. When the mucous membrane is dry and the secretion scant, we shall find good results from a similar application of iodide of potassium, five grains; chloride of ammonium, five or ten grains; or the tincture of pyrethrum, ten minims to the ounce; or the nascent chloride of ammonium may be employed by any one of the numerous inhalers devised for the purpose. Water is generally used as the menstruum, though we may use a mixture of glycerine and water.

When chronic laryngitis is attended by pain, the camphorated tincture of opium, or the compound tincture of benzoin, or the watery extract of opium or belladonna, may be beneficially added to the astringent spray. Patients who are being treated by inhalations of warm vapors or steam sprays must not go out of doors for half or three quarters of an hour after the inhalation.

In case the disease does not yield to this form of treatment, sulphate of zinc, chloride of zinc, or the sulphate of copper, ten to thirty grains to the ounce; sulphate of iron, from sixty to one hundred and twenty grains; or nitrate of silver, thirty to one hundred and twenty grains to the ounce, or some other astringents or caustics, should be applied directly to the inflamed parts with the aid of the laryngoscope and laryngeal brush or sponge. Ordinarily, these strong applications should be made at first every day, for one or two weeks, then every second day, and afterwards less frequently. In the mean time the patient should use at home some of the milder astringent sprays of which I have just spoken. When the patient is obliged to breathe cold air, or air containing irritating dust, the use of a respirator to modify the temperature or filter the air will be found very beneficial.

In some instances, the best treatment which can be applied will be found inefficient; then you will have to be content with palliative measures and maintaining the general health in good condition. Such patients are frequently benefited by change of climate.

When ulceration occurs in simple chronic laryngitis or in the syphilitic or tuberculous forms, the treatment must be more vigorous. All these cases must receive proper constitutional treatment besides the local applications. Syphilitic ulcers should be treated by topical applications of the solid nitrate of silver, or very strong solutions; or the acid nitrate of mercury, forty to one hundred and twenty grains to the ounce; or when the ulceration is on the epiglottis, so that it can be reached, the galvano-cautery may prove more efficient. The applications will not need to be repeated oftener than once in two or three days. In the ulcerations due to a simple chronic laryngitis, the same topical applications are indicated as in chronic inflammation without ulceration, but the solution should be stronger and should be applied carefully to the ulcerated surface. In tuberculous laryngitis with ulceration, and dysphagia due to pain, very great benefit may be derived from local applications. For the general practitioner, the simplest local remedies are cod liver oil or sweet oil. When swallowed they bathe the parts more or less completely, and thus aid in preventing the severe pain which would otherwise prevent the ingestion of food. The same remedies may be applied with the brush or probang. The insufflation of certain powders will be found beneficial, and this may usually be easily accomplished by the general practitioner. The insufflators which I have found most satisfactory consist of a rubber bulb attached to a flexible tube about eighteen inches in length, and a glass tube about eight inches in length and three sixteenths of an inch in diameter, bent within an inch of its extremity nearly to a right angle and made somewhat flaring at the orifice of this bent end. The insufflators found at the instrument stores consist of a metal or gutta-percha tube, bent at one extremity and having a rubber bulb attached to the other. The objection to these is that as the bulb is squeezed, the end of the instrument is unavoidably moved from its position and the powder is thrown somewhere else than where intended. This objection does not apply to the insufflator which I show you. In using it, the glass tube, having been charged with the powder and introduced into the end of the flexible rubber tube, is held between the thumb and first finger of the right hand, and the rubber bulb is held in the palm of the same hand by the remaining fingers, so that it may be readily compressed without affecting the position of the glass tube. In charging the insufflator the end which is to be inserted into the rubber tube should be passed into the powder, and moved round and round until sufficiently filled; it is then connected with the rubber tube. To make the application, if you cannot use the laryngoscope, hold the insufflator with your right hand and with the other hold the patient's tongue far out of the mouth, then direct the patient to take a deep inspiration, and during the act pass the tube as far back, and low down into the throat, as you can, compress the bulb, and the powder will nearly always be blown directly into the larynx. The powder which will be most beneficial in cases of tuberculous ulceration consists of one grain of morphia to about forty grains of bismuth and ten grains of pulverized acacia; or if there is much secretion, you may substi-

tute a portion of the bismuth by tannin or iodoform or both. When the pain in deglutition is severe, you can give your patient the greatest relief by the application to the ulcer, by means of the laryngeal brush, of a solution of tannin and carbolic acid in glycerine; I use four grains of morphia, thirty of tannin, and twenty of carbolic acid to the ounce of glycerine. The relief which I have been able to procure some of these cases by this application has given me more satisfaction than anything else during my professional life. In illustration, I will cite only a couple of cases: A gentleman called on me some time ago, in a most piteous condition, who, on account of the pain, had found it impossible to swallow for a week. Upon laryngoscopic examination, I found a large and deep ulcer on the lingual surface of the epiglottis. I brushed this solution well over the surface of the ulcer, and he returned to me the next day, having eaten his supper and breakfast without the slightest difficulty. I made another application, and then saw nothing more of the patient for about two months. On his return, he told that he had not suffered in the least since the last application, until the last few days. I made another application, and the patient has not again returned.

In another case, there was a large ulcer on the ventricular band of the left side, and extending to the inter-arytenoid fold; the pain being so great on attempts to swallow, that the patient was unable to take either fluids or solids. I made an application which relieved the pain entirely, and made the patient comfortable for nearly two days. Subsequently the applications were made nearly every second day, for several weeks, each time giving the patient almost complete immunity from pain, for from forty to forty-eight hours, with the result of allowing the ingestion of food and drink, and prolonging life for a couple of months, until the patient succumbed to the constitutional disease.

Original Articles.

THE USE OF MECHANICAL RESTRAINT IN INSANE HOSPITALS.¹

BY WALTER CHANNING, M. D.

THIS brief paper does not pretend to be an exhaustive one, but was written for the purpose of bringing the subject of which it treats especially to the attention of that portion of the profession not engaged in the treatment of the insane. Every one knows that certain forms of restraint are used in hospitals, but what they are, how applied, and why is not generally known. It is to just this lack of a mutual understanding between insane hospital authorities and the public that we owe the continued prejudice and want of confidence still felt to a certain extent in insane hospitals. There is and can be no disgrace in the principle of mechanical restraint, and no public sentiment should prevent the frank avowal of this fact.

Up to the beginning of the present century, though in some countries the treatment of insanity showed indications of improvement, it was still largely barbarous and unchristianlike. Insanity being a development of the brutal side of human nature, it was natural in the dark ages to resort to harsh and brutal measures in dealing with it. Hence were created re-

lations between the sane and insane similar to those between man and beast. As civilization progressed, but little additional knowledge was gained of the disease of insanity. If any changes were made in its treatment they resulted in little more than better concealing it from the public gaze. There is always a natural tendency to cover up the weaknesses of mankind. We strive after the high and pure and virtuous in life, but detest and shun weakness and vice. So insanity was regarded as a sort of punishment for past sins. The lunatic was prematurely cast into hell, consigned by a just fate, and no helping hand was extended to save him. To this public sentiment is due the fact that the insane suffered in dungeons and chains so many years. It was not any enlightened public view which finally effected some amelioration in the condition of the insane, but a strong and determined stand taken by a few of the physicians engaged in their treatment.

Up to the advent of Pinel in France in 1792 every form of torture was used to subjugate unfortunate lunatics. Besides chains, shackles, handcuffs, and other means to confine the limbs, they were reduced to abject terror by revolving chairs, swings, shower-baths, traps in the floor, etc. Pinel was one of those geniuses or reformers who, as Maudsley says, can only be born once in a century. He, seeing far beyond any of the men of that day, recognized the fact that insanity was a disease, and the brutality of its past treatment could only develop and intensify its manifestations. Accordingly, on his entrance into the Bicêtre he removed the chains of over sixty of the patients and gave the first impetus to the use of non-restraint. Many years later Gardiner Hill and Charlesworth carried the work still further, entirely abolishing mechanical restraint. It remained, however, for Connolly to definitely systematize the work and gain an immortal reputation by his efforts. He went to the Hanwell asylum in 1838, and there began his remarkable career, which was to affect the question of restraint the world over, creating its (apparent) entire disuse in English asylums. Connolly was carried away by his theory, and has said and written much that to-day seems almost incredible. The cases illustrating the new system and the results obtained show that Connolly was possessed of the enthusiasm and extravagance characteristic of reformers in other fields. Viewed in the sober light of to-day we see that many of his ideas were impracticable. He imagined a state of affairs impossible anywhere except in the lunatic asylum of paradise. His theory, as you know, was to abolish mechanical restraints *in toto*. In the place of these restraints, however, he proposed to use the arms and hands of attendants; or, in other words, to replace mechanical or dispassionate by brute or passionate force. Lord Shaftesbury has said that "there is nothing on the face of the earth half so provoking as a madman when he chooses to be so." Insane patients will destroy glass, crockery, furniture, clothing; attack other patients, or attendants, and sometimes even injure themselves, and often with an apparent clear understanding of the nature of such acts, more frequently, of course, acting under the impulse of delusions. These acts may have been repeated twenty times, creating the most dire confusion among the other patients. All arguments, reasoning, or persuasion are absolutely useless. Now if the attendants who have charge of these patients were angels in disguise, we might well leave the patients to be for-

¹ Read before the Norfolk District Medical Society, October 1, 1879.

cibly controlled by them. The reality is, however, of necessity different. In New England we have attendants who are drawn from a good class of farmers' sons and daughters, and are above the average in both English and American asylums. Those of them gifted with amiable, equable dispositions may treat the insane with the necessary forbearance and tenderness, but the human temperament is fickle, under provocation passionate, and often irritable, and as far as my experience goes attendants become wonted and in many cases hardened to sights of suffering and outbreaks of violence which they constantly witness. It requires, in the first place, a very high order of intelligence to appreciate the complex nature of such a disease as insanity, and in the second place such virtues as patience, firmness, kindness of heart, tact, and perseverance to personally manage with success its subjects. Connolly pictures a state of affairs where the patients are so quiet and lamblike that they can be subdued by a few words; but in this country such cases are the exception and not the rule. Hand restraint means with us the use of force. To allow the ordinary attendant to use personal force to restrain the patient in an outburst of excitement and violence seems to me in most cases highly undesirable. One attendant cannot control the patient; it must take two or three, and a scuffle must frequently ensue, sometimes to be continued until the patient is exhausted, and often to be again renewed. Such hand-to-hand fights are demoralizing, both to patients and attendants. Connolly dwells on the fact that sufficient help should always be near at hand, thereby frightening the patient by superior force; but it must be remembered that many attacks of violence are paroxysmal, and may occur when help is not at hand.

As another means of non-restraint its advocates use seclusion. Seclusion means shutting a patient up in a room. Sometimes it will be his own room; in other cases a dark, gloomy room, devoid of furniture, and but little better than a prison-cell. Padded rooms are sometimes used for patients who are very violent and would be liable to injure themselves. The latter rooms are in certain cases useful, no doubt; but as the strongest padding I have heard of can be torn to pieces, and is also liable to become soiled and unfit for use, they cannot be generally of great utility. Seclusion may work well for short periods, but when it is to take the place of mechanical restraint it must often cut patients off from association with others, thereby defeating one of the main objects of treatment. Seclusion leaves a patient more liable to neglect, and affords him an opportunity to indulge his vicious propensities, as well as to brood over past misfortunes and present ill treatment. It is so much easier to keep a violent and dangerous patient under lock and key that attendants easily, almost imperceptibly, get into the habit of secluding them. Seclusion seems to me, in a word, the first step backward to the solitary confinement of past ages.

For years the ultra ideas of Connolly held sway in England, but the reaction has now set in, and restraint is again being used, though only in a limited number of cases. Dr. Lauder Lindsay says, in a recent article on Mechanical Restraint, that "we have the lunary commissioners themselves, as impregnated as they have been with Connollyism for the last twenty-five years at least, proving officially that various forms of mechanical restraint are employed at the present day in those

English asylums that bear the highest reputation, as by those physicians who are by habit and repute distinguished for their humane as well as successful management." Dr. Lindsay further says that in the last Blue Book, or thirty-second report of the English Commissioners in Lunacy, which bears the date of August, 1878, and which therefore records the incidents in English asylums in 1877, he "finds no less than one hundred and twenty-three cases of mechanical restraint reported as having occurred in a single year in a limited number of private asylums, under circumstances, that is, in which such restraint was least likely to be used." Dr. Lindsay's paper on The Theory and Practice of Non-Restraint is one of the ablest papers on the subject that I have seen. In this he shows the various make-shifts resorted to to take the place of restraint, such as dry and wet packing, tight wrapping in a sheet, etc. He says in another place that "in the course of five and twenty years I have heard only of three out-and-out supporters of Connollyism, two of whom are Connolly's sons-in-law. "Dr. Bodington, superintendent of an excellent private asylum in England, and author of a recent able article on restraint, writes me that "the non-restraint system, though a misnomer and a sham, so far as the name goes, has done much mischief in this country. I hope it will not be successfully set up in America. It is a system of pseudo-philanthropy, not true philanthropy."

American physicians visiting English asylums generally come home with the idea that English superintendents favor the use of restraint. Two of them have recently written as follows: Dr. Stearns, superintendent of the Hartford Retreat, says, in his last Annual Report, "In reference to . . . non-restraint (so-called) I presume no one would admit any change of opinion during the last five years; but I noticed a great readiness on the part of every superintendent to say that he would use mechanical restraint in certain cases. And the opinion was advanced that Dr. Bucknill, in his recent letters on the subject, had been extreme in his view, at least so far as relates to Scotch asylums; that all or nearly all superintendents would not hesitate to use mechanical restraint in extreme cases; that the principal difference between the practice, in this respect, of Scotch and American superintendents is as to frequency of use. Americans use it in many cases where the Scotch would avoid it." Dr. Shew, superintendent of the Connecticut State Insane Hospital, said in his Annual Report for 1878, "In my recent brief visit to European institutions I saw in use the same mechanical appliances that are found in American hospitals, namely, camisole waists, leather wristbands, 'protection beds'; and in one asylum the shower-bath—a form of 'mechanical medication' which I have not found in any American asylum—was in daily use with good results, according to the testimony of the assistant physician. With one exception, the medical officers in charge of British asylums conversed with me freely respecting the moderate use of mechanical protection in preference to personal seclusion, or manual restraint by attendants. The impression gained by these interviews and personal inspection of institutions confirmed the statement already made, namely, that during the past few years a strong and general reaction in favor of the moderate use of mechanical protection in the treatment of the insane had taken place."

The abolishment of restraint in English asylums has produced a decided change of opinion as to its use in

other countries. No doubt it is much less frequently employed. Neither America, France, nor Germany, however, believes in its total discontinuance. Dr. Pliny Earle, one of the foremost thinkers and writers on insanity in America, very vividly defined the position of asylum superintendents in this country as many as thirty years ago in the following words:¹ "The authorities of this hospital (Bloomington) have gradually abandoned the most exceptional forms of restraint. They have never, however, become proselytized to the doctrine of the absolute, entire disuse of all restraining apparatus. There are exceptions to all rules, which are not governed by the invariable laws of mathematics or of moral right, and no argument . . . can overthrow our belief, founded upon the observation of several years, that there are cases in which the welfare of the patient and the dictates of true humanity require a resort to some restraining means . . . yet those who in their recession from left hand defections have in our judgment fallen into right-hand errors, assert that, in the cases alluded to, whatever restraint is applied should be the hands of attendants. To this subterfuge we cannot resort, knowing, as we do, the greater irritation produced in a patient by being held by the hands of attendants than by having his limbs confined by mechanical contrivances. In the former mind struggles with mind; in the latter with matter alone."

To elicit definite information as to the amount of restraint at present employed in our American hospitals, I addressed a few inquiries to the superintendents of Massachusetts state hospitals. The answer of Dr. Earle, for many years superintendent of the Northampton hospital, I propose to give nearly in full, as being a very clear and frank statement as to the amount of restraint actually used. Writing under date of March 28, 1879, he says: "You ask first for the percentage of mechanical restraint used in this hospital. Preliminary to an answer to this question, it is but just to the institution and its officers to state that, from its origin to the time of the opening of the new Worcester Hospital, in the autumn of 1877, the Northampton Hospital was the receptacle for the overflow of the other two State hospitals for the insane. The consequence was, that we came to have an abnormally large proportion of excitable, refractory, destructive patients. The proportion of such patients now is from two to three times as large as it was when I took charge of the hospital in 1864. This is emphatically true as applied to our wards for females." He says that he cannot give the exact percentage, but, omitting one patient who wears it from choice, "the percentage of mechanical restraint in our men's department is not over one. In the female department the proportion is about six per cent., and in the two departments, as a whole, about three and four fifths per cent."

"Of the *forms* of restraint we use the camisole much more than any other. Next, the leathern wristbands and wristlets. Occasionally, but rarely, the leathern muff is used in combination with these. For strong, dangerous men, I have found the common iron handcuff not only the most effective, but in my opinion the most humane form, as not causing those abrasions of the skin which are a not infrequent product of the leathern wristlet."

"I think the crib, or covered bed, employed with proper discrimination and judgment, a great blessing to

the insane. Our total use of it for one season probably does not exceed two hundred and fifty nights for one person in the course of a year. Within the last two years we have had two patients, both of them bright, intelligent young women, for whom it was used during the active stage of their disease, who became so attached to it that after convalescence they desired to continue to sleep in it so long as they remained in the hospital."

"You ask my opinion of the use of restraint in the treatment of insanity. My opinion of it is expressed in my practice. I have always believed that the so-called non-restraint method of the English was not a product of the highest wisdom, or the most genuine humanity; and consequently have always believed, as I still believe, that it is destined to lose its adherents and become, by and by, a thing of the past. Nevertheless, while so believing, I have always endeavored, since my first connection with an institution for the insane, to reduce the employment of mechanical restraint to the minimum of what I believed to be true humanity. In my history of the Bloomington Asylum, published more than thirty years ago, I stated in regard to that institution that during the last three years (1845—1848) the muffs have not been used in more than two or three cases annually, and in those for but a day or two, or at most but a few days each. There was one period of thirteen months, during which restraint was resorted to in but two cases in the men's department."

May 17th, Dr. Earle added a postscript to this letter, in which he said: "I have kept this letter ever since March 28th for the purpose of verifying, to some extent, my estimate of our use of restraint. I now think the estimate fully large enough, but it probably does not differ much from the truth."

Dr. J. B. Brown, superintendent of the Taunton Lunatic Hospital, wrote me on March 7th that at that time the amount of restraint in use was five per cent., a considerably higher rate than Dr. Earle's. Why so much was used Dr. Brown did not state, but he said that it had been lower and might have been higher. In choosing between restraint and seclusion he much preferred the former when it would prevent the latter. He uses wristlets, belt, and mittens made of leather or strong cloth, and the camisole also. The protection bed he has had no experience with. He closes his letter by saying: "With a sufficient number of attendants, I think restraint can be reduced almost to a minimum, but am not convinced of the assumed benefits of non-restraint, so-called."

Dr. Parks, of the Worcester Lunatic Hospital, used camisoles, muffs, wristers, and the protection bed in one case. He regards mechanical restraint as not only a necessary, but a humane appliance in the treatment of some cases of insanity.

Opinions and the practice of numerous other superintendents could be given, but as they all advocate very nearly the views given above it is unnecessary. The best and most humane men in the specialty, for instance such men as Dr. Kirkbride, superintendent of the Pennsylvania Hospital for the Insane, are unanimous in their opinion that restraint under certain circumstances is desirable. Such views have not, however, prevented its discontinuance, and many of our hospitals have for long periods gone without it. Dr. Kirkbride uses almost none, and both at Hartford and Middletown Drs. Stearns and Shew have gone without it for more than a year at a time. Of the Asylum for

¹ Part Second in the History, Description, and Statistics of Bloomington Hospital. 1848.

Insane Criminals at Auburn, N. Y., where in old times restraint was largely used, and in its most objectionable forms, Dr. C. F. MacDonald, who has recently resigned to take charge of another institution, writes me as follows: "The amount of restraint has been gradually reduced until none has been used for nearly a year, but this 'non-restraint' has been reached through an accidental state of affairs, namely, the absence of cases of violent mania and others requiring restraint. I am a believer in restraint, and would use it in certain cases. In fact, I think it a neglect of duty to omit its employment in certain cases to be found in general asylums. I think that we should endeavor to maintain the *principle* of restraint, but at the same time to demonstrate the fact that American superintendents are equally desirous with those of other countries to reduce its use to a minimum." That Dr. MacDonald should have been able to do away with restraint for so long a period in an asylum containing over one hundred persons of the worst character is a good illustration of what can be done.

No one can doubt, I think, who has visited and examined into the management of our lunatic hospitals, that our superintendents are many of them making earnest and persistent efforts to do away with restraint in any and all cases if possible. They have the immense advantage, however, over England of not having instituted the reform. This leaves them in a position to profit by the mistakes made by their English brethren, thereby avoiding extremes, separating the wheat from the chaff, and adopting principles that must be finally settled on by all.

In large general asylums there must almost always be cases requiring mechanical restraint, but very much depends on the hospital management. Patients who are well fed and clothed, provided with suitable work and recreation, and kindly treated; who are made to feel that their comfort and happiness are the chief end of the asylum officials, are infinitely less irritable and difficult to manage than where the opposite state of affairs prevails. The more we strive, therefore, to improve the surroundings of the insane the greater will be the diminution in the restraining apparatus required.

I shall bring this paper to a close with a reference to the forms of mechanical restraint used. The following kinds have been mentioned in the letters quoted above, namely: wristlets, with waistband, both of leather; muff added to these; camisoles; mittens; gloves; protection or covered beds, or cribs. The wristlets which I show here are made of leather, soft and well padded, and possess the advantages of being easily applied, of being soft and light, and therefore comparatively comfortable to wear; and also of allowing quite free motion of the arms and use of the hands. The muff is a leathern covering added to the wristlets, and used to cover the hands where a patient is inclined to be destructive with them. It is hot and uncomfortable, and should be very rarely employed. The camisole is generally made of stout canvas. It is a modification of the strait-jacket, though so much modified as to lose the objectionable features of this barbarous apparatus. It is a tight fitting waist, laced behind, and with long sleeves, to the ends of which are attached long fastenings. The arms are crossed over the lower part of the chest and the fastenings carried to the back. By drawing these fastenings very tight or winding them about the elbows a greater amount of confinement for the arms can be secured. Patients soon become accus-

tomed to the camisole, and have often told me that they did not mind it. It has the advantage of keeping the clothes on, but at the same time, whenever these are to be changed, must be removed and reapplied, all of which may make considerable trouble. For women it is a natural kind of garment, and therefore better adapted to them than to men. The strait-jacket of olden times was a long, sleeveless jacket, extending from the neck to the ankles. It laced behind and fitted close to the body, drawing in tight at the waist. In such an apparatus it was possible to make only the most limited motion of any portion of the body. The arms, being bound down to the side, suffered excruciatingly from the confinement. Patients with this apparatus on were formerly attached to a stake by a short rope, and kept thus tethered for hours daily. This instrument of torture has gone quite out of fashion, but has been replaced by a similar garment going only to the lower third of the thigh, but still possessing many of the bad features of the old-fashioned jacket. It is at best a brutal form of restraint and should be entirely abolished.

The "crib," as it is called by its enemies, or the covered or protection-bed, as its friends call it, is like a child's crib, with a cover similar to the sides, which shuts down and locks. The sides are from three to four feet in height, and it is wide enough to allow of free movements of the body. Opinions among superintendents are divided as to its use; for instance, out of eleven consulted seven were in favor of it. I think most of those who have tried it favor it, while those who have not shrink from its use on moral grounds. In such a case as this the experience of Dr. Earle must have great weight, and he, as we have seen, "regards it as a great blessing to the insane" when properly used.

Various other easy forms of restraint are used, which, however, are not usually dignified with the name and need not necessarily be mentioned here.

My own opinion of restraint is that under some circumstances we cannot dispense with its use. This opinion I have only arrived at after living month in and month out with the insane. In large hospitals there will always be a certain proportion of very violent and dangerous patients who must be restrained. The question to study is, How best to apply such restraint? In the first place, hospital attendants should themselves be taught that restraint is no more to be prescribed by them than medicine, and they should feel that the less they use it the better their standing. The apparatus used should be kept in the physician's charge and dealt out like medicine. Records should be kept of the forms of restraint used, why applied, for what length of time, etc.; the object of such records being to limit the use of the restraint, as well as to make open and public the exact amount of its use.

It is better to err on the side of too little restraint than too much. Especially is this true as applied to personal freedom. The greatest possible freedom of personal action should be allowed to hospital patients. While they will permit the occasional use of mechanical protection when excited and violent, they are keenly alive to the injustice of locking them in wards like wild animals and debarring them from the independence of daily life.

In arguing for or against restraint we are apt to forget that any kind of confinement is restraint, and the employment of a certain form of apparatus for

confining the hands of violent and dangerous patients is only one of the smaller points appertaining to it. That many if not most insane persons must be restrained in hospitals is undoubted; a much more vital question than the abolishment of *mechanical* restraint is, How can we make the necessary *hospital restraint* bearable? A gratifying instance of the result which the consideration of this subject has produced is shown by the following quotation from the last report of the Government Hospital for the Insane at Washington. The new building was in January last "occupied by about fifty men, carefully selected from among those patients who had been employed in the various departments of work about the hospital. A liberal diet was furnished them, and since these patients were trusted every day about their work, it did not seem necessary to bolt and bar their rooms at night. Accordingly all window guards were omitted from the window and the key turned only in the outer door at night. The result has justified our expectations; the door being wide open there is no need to jump out of the window; there being every facility to run away nobody wants to go; they are content with and rather proud of their new home. Of course this arrangement will not apply to all classes of patients, but the experiment will bear extension. Congress thought so, making \$30,000 immediately available for the present relief of our overcrowded wards. . . . We hope the buildings when occupied will help to demonstrate some things in relation to the care and cure of the insane that have, in this country at least, been either but imperfectly apprehended or wholly overlooked."

The Government Hospital is following the example set us by our English brethren, and by and by we may be as successful as they are at Cupar-Fife and Lenzie in Scotland. At the latter hospital there are five hundred patients, but no locked wards, and the officers carry no keys.

DEATH BY LIGHTNING.¹

BY MEDICAL EXAMINER JOHN L. SULLIVAN, M. D.

THE following pages are, in the strictest sense, a compilation. The writer's acquaintance with the subject being imperfect and theoretical only, the production of an original paper was not attempted. In pursuing the task assigned to him by the society's president he has striven simply to collect and arrange in a convenient form for reference such matters relating to death by lightning as were thought to possess medico-legal value, and to be sustained by good authority. Although "marks of quotation" seldom appear, as a rule the language employed by the writers drawn upon has been retained *literatim et verbatim*.

In lightning shock what are the effects caused, and what, if any, are the distinguishing marks of death by lightning?

The effects caused by the passage of lightning or a fatal current of electricity through the animal body differ in different cases. The following examples of some of the so-called vagaries of lightning, taken from sources believed to be trustworthy, may be cited in illustration.

Lightning may heal as well as harm; it may abolish sight, hearing, and the power of voluntary motion, or it may restore the lost senses and cure paralysis. It may strip the body naked, and consume the clothing, while the wearer escapes unhurt, or it may consume the individual and leave his garments untouched; one person who is fatally struck may be hurled violently to a distance, while another is left in the precise attitude and spot in which death surprised him. One case shall present extensive anatomical changes, such as amputation of limbs, rupture of the heart, comminution of the bones, while in another case no injury whatever will be detected. One autopsy may reveal softening of osseous structures, collapse of the lungs, fluidity of the blood, and in another exactly opposite pathological conditions will obtain, to wit, engorgement of the lungs, coagulation of the blood, and rigidity of the muscular system. One thunder-stricken corpse shall undergo rapid putrefaction, while another shall remain for days unchanged, as if in defiance of the laws of decomposition. There may be sudden incineration of the body, or it may be consumed slowly as if by spontaneous combustion, and only gradually be reduced to ashes, or we shall not perceive the man dead until we touch him, and then see him fall to dust; one subject will present all the signs of death by freezing, another those of instantaneous petrification. Lastly, the immediate disappearance of the thunder-stricken person may occur, without leaving a trace of his body or any of its parts, thus summarily relieving the medical examiner of responsibility in the case.

It has been proved by experiments, the details of which would be out of place here, that these diversities in the phenomena of lightning shock are due to differences in the *quality* and *intensity* of the electrical discharges concerned in their production. The natural electrical discharges included under the general term lightning are not all one and the same thing; in short, there are several kinds of lightning, and each kind deals, so to speak, with the living organism in its own way. Sheet lightning, zigzag lightning, ball lightning are terms used in scientific as well as popular language to designate as many distinct orders of lightning. These differ from each other in several respects, notably in the appearance of the flash as perceived by the eye, in the quality of the shock or blow given, and in the effects produced.

Sheet and zigzag lightning have each a counterpart on a small scale in discharges obtained from a powerful induction coil. One of these discharges is made without the other discharge with the vibrating or mechanical break attached. The former is the analogue of sheet, and the latter discharge that of zigzag lightning.

Sheet lightning is either a simple flaming flash or a compound flash made up of two distinct flashes, a thin, tense flash combined with a flaming flash. The tense flash is destructive to life. The flame flash causes general muscular contraction, singes, scorches, perhaps blinds, or it may induce a state of insensibility or anæsthesia which may last a considerable time, but it does not necessarily destroy life. In lightning shocks we may see in the effects caused the evidence of one or the other of these discharges, or of both in one and the same subject. Thus, two persons standing together are simultaneously struck; one will be dead instantly, and his body will be singed and burnt, the other will be much shaken, scorched, and burnt, but

¹ Read at the February meeting of the Massachusetts Medical-Legal Society, 1880.

will escape with his life. One will have received in his body the tense discharge combined with the flame flash, the other has been struck by the flame flash only.

Zigzag or forked lightning, like sheet lightning, causes muscular contraction, and with this difference, the contraction is persistent, or nearly so, and as the muscles concerned in respiration may be contracted without efficient relaxation, death may result from apnoea.

Ball lightning is described as an electrical or meteoric globe, which is sent from the cloud to the earth in a curved line like a bomb. Ball lightning is violently explosive, readily sets fire to the building on which it alights, and inflicts such injuries on the animal body as might be caused by the bursting of a shell. As far as I can learn, the phenomena of ball lightning have not been imitated in the laboratory. From the ordinary Leyden battery of jars and from the jars in cascade we obtain two forms of artificial lightning, characterized by intensity of shock, each of which has its counterpart in the grander phenomena of nature. The discharge from the ordinary Leyden battery acts like a mechanical blow. An animal struck by this discharge will be killed with convulsive movements, and left distorted, rigid in parts, or bruised. According to the intensity of the shock it produces two kinds of states: a state of insensibility, in which the body is prostrate and dead to all sense of pain, but quite capable of recovery; and a state from which there is no recovery. A painless surgical operation may be performed on an animal while in the former state. The difference in the effect of shock admits of this explanation: when death does not follow the discharge, the shock has affected those nervous centres only which govern voluntary muscular motion and sustain nervous sensibility; when the shock kills, the effects extend to the centres which govern the involuntary muscular acts, first the respiratory, second the circulatory.

The discharge obtained from the jars in cascade presents to us the most fatal form of lightning shock. It is not flaming, not burning, as it falls on the animal body; it does not glide harmlessly over the surface of the body, as sheet and zigzag lightning are known to do; it penetrates and always kills, with little or no movement of the body and without disfiguration.

Death is sometimes caused by the phenomenon known as return shock (*choc-en-retour*), which occurs thus: During a lightning storm objects at a distance from the place of discharge may have been previously charged with electricity by the induction of the clouds; the distant discharge suddenly sets free this electricity so that it passes through the object to the ground. The bodies of persons killed by this form of lightning electricity may be left torn and mutilated, as if by gun-shot, or may exhibit no external mark of injury.

An analysis of all the cases recorded shows that there are various modes of death by lightning. It may kill (1) like any other shock, producing syncope, concussion of the brain, spinal cord, etc.

(2.) Like burns, by an intense and fierce heat, setting fire to the hair, skin, and clothing of bodies, and sometimes consuming the bodies themselves.

(3.) By explosion like gunpowder, or dynamite, showing ragged wounds and fractures of bones, effects like those of a mechanical blow.

(4.) By acting like a drill, or cutting instrument, it stabs and pierces the flesh, perforates and destroys the viscera.

(5.) By acting chemically on the blood, producing peculiar modifications of that fluid incompatible with life.

Many theories have been advanced to account for the cause of death from lightning shock, especially in cases in which there is an apparent absence of any structural lesion.

John Hunter's theory is that death is instantaneously produced in the muscles, "which, therefore, cannot be affected by any stimulus, nor consequently by the stimulus of death." Other authors have supposed that in all cases death is due to mechanical injury. A third class have attributed the fatal result to spasm of the heart and of the muscles of respiration. Dr. Richardson believes that the immediate cause of death is of a more simple nature, namely: that in all cases where death is instantaneous, it is due to the sudden expansion of the gaseous part, or atmosphere, of the blood, combined, in extreme degree of shock, with sudden conversion of animal fluid from the fluid to the gaseous condition. In support of this theory he adduces experiments which show that in proportion to the power of the shock there is expansion within the organism, expansion of the blood, distention of vessel, and, according to the degree and place of the expansion, the infliction of serious injury. Dr. Richardson's views are corroborated by many of the more frequent post-mortem appearances.

Under all forms of electrical discharge the best conductor in the animal body is the metallic chain of the blood, and the last organ to be brought into a condition of rest is the heart. When all other parts fail, the heart retains, and often for a long time, its action. At the same time the blood has no undue tendency to coagulate, and thus after the shock there are two conditions for recovery so favorable that the merest effort at respiration may lead to recovery. Hence it is, perhaps, that where death is not immediate, recovery is the rule.

The velocity of electricity along a copper wire exceeds that of light through the planetary space. It traverses the Atlantic cable at the rate of fifty miles per second. It is, therefore, quicker than thought, and the speed with which it traverses the animal body is undoubtedly greater than that with which sensation is transmitted to the conscious centres through the afferent nerves. As might be inferred, the reception of the shock which renders the body insensible seems to be unknown to the person injured. The concurrent testimony of those who have been thus struck down and who have given evidence on the event is that they were not conscious of what had happened until the commencement of recovery, the first symptom of recovery being restoration of consciousness. Death by lightning is probably, therefore, the most painless of deaths.

When a person is struck down by an electrical discharge and yet is not killed, the breathing power is reduced, the pulsation of the heart is reduced, the body is lowered in temperature, and there is often for some hours depression of muscular power. Tinnitus aurium, paralysis, insanity, delirium, fever, blindness, entire loss of memory, paralysis of the bladder, apoplectic insensibility, muscular twitchings and spasms, epileptiform convulsions, and other neuroses are some of the recorded results of non-fatal cases.

The fatality of the shock is in proportion to the intensity of the shock.

Those shocks which by their intensity kill most readily leave least of distortion or injury.

When we see a person who has been struck by lightning, we may in some instances know accurately from the injuries received the character of the shock to which he has been subjected.

In a very large number of cases there is sufficient evidence from the surroundings and from the appearance of the clothing and the body to warrant us in attributing death to the action of the electric current. Exceptionally, however, death by lightning may give rise to the suspicion of criminal violence. What will be the value of a medical examination in a doubtful case? If an individual has been struck dead by lightning, will it be possible to determine the cause of the death by an inspection of the body alone? What are the characteristic appearances, the thanatognomonic signs on which we may rely, when the identity and history of the subject are wholly undetermined?

The bodies of persons killed by lightning are usually distinguished by a variety of external appearances, ranging between an abrasion of the cuticle, a simple ecchymosis erythema and scorching of the surface on the one hand, and wounds resembling those of gun-shot or stabs from a blunt dagger, deep lacerations, fractures and dislocations, and the tearing away of more or less of the body, on the other hand. The coincidence in the dead subject of a diversity of injuries, such as we have mentioned, will suggest the probability, or at least the possibility, of death by lightning, and the probability will be heightened if the individual's clothes are torn and burnt, and metallic substances about him are found melted. The conversion of metallic articles worn or carried about the person of the deceased, such as blades of pocket knives, keys, etc., into magnets by the action of lightning, is a phenomenon of not infrequent occurrence and of great diagnostic value.

Dr. Tidy observes that now that powerful galvanic batteries are becoming common in scientific institutions and private laboratories it is by no means unlikely that some deaths, accidental or otherwise, may happen from the sudden discharge passing through the human body. If called to such a case, he says, make a careful examination, sketch, and memorandum of the exact position of the body, as well as of the markings on it. Note also its proximity and relation to the battery, and the nature of the battery, with the arrangement of its wires, commutators, conductors, etc.

It must not be forgotten that the most fatal of shocks may kill and leave no external sign. A person will be left without a mark upon his body and yet he will be dead. And he may be left in such serenity of death, with such persistent brightness of eye, calmness of expression, and ease of limb, that you could almost accost him, as though he were in life, and deceive yourself that he did yet breathe. This wonderfully life-like appearance of the body is peculiar to death from the penetrating, intense form of lightning, which has its counterpart, on a small scale, as already stated, in the discharge from the Leyden cascade battery. The phenomenon is too striking to readily escape observation; when seen, it will at once arrest the attention and bespeak the fatal cause.

From the nature of their avocations an overwhelming majority of the deaths from lightning are in the male sex and happen out of doors. Suppose a person struck to have been sheltering himself under a tree or exposed openly. In the first case, if the man were

standing, as often happens, with his head inclined slightly forwards, the lightning in passing from the tree strikes the body on the head and shoulders, causing a burn which is attended with much pain (if death or insensibility be not immediate), extravasation of blood, and congestion of the vessels over a broad part of the surface. From this a smaller stripe passes, running down to the nates, and gradually getting narrower and more superficial. On the buttocks, where in the man the clothes fit tighter, the conduction is more intense. The lightning (1) is either conducted by the skin thence to the trochanter, on one or both sides, the marks becoming fainter, and so on towards the knee, where owing to the tightness of the dress it causes a deeper burning, runs along the calf, and then, if boots are worn, passes over and destroys them; or (2) it passes along the skin to the heel, which it wounds, and after piercing the shoe makes a hole in the earth (often the lightning passes along the ankle), or the lightning may be conducted along the trouser, which it destroys or pierces with only a round hole. In the second case, when the lightning strikes a person freely exposed on the ground, then usually the head covering is destroyed and the vertex smitten. From thence the conduction may be twofold: either (1) from the cranial bones to the brain, producing death by the simple or combined influence of injury to the brain mass, or rupture of blood-vessels; or (2) along the skin. In the latter case the skin of the face and neck is almost always completely spared, and the lightning effects a considerable burn over the sternum. In some cases it enters the mouth and affects the teeth and tongue, causes loss of voice and bronchitis, or it may effect—and this may be the only lesion—the removal and disappearance of the tongue. Proceeding downwards the track passes towards the inguinal region; sometimes an interruption of conduction occurs, the lightning merely tearing the shirt. Occasionally we have deep burnings of the groins and genitals, occasionally mortal lacerations of the intestines; in milder cases congestion of the liver, spleen, stomach, etc. The conduction is then through the skin or clothing, or both, to the back of the foot, where a wound is produced. The burning of the hair is sometimes very remarkable, taking place without any injury to the skin. Hæmorrhage from the mouth and nose sometimes occurs.

Articles of clothing pierced or rent by lightning usually present peculiarities in the appearance of the holes or tears which it would be hardly possible to imitate artificially, and which are therefore of diagnostic value. No matter what the fabric may be, the holes or rents are quite homogeneous in appearance, and at first view suggest the action of fire. On closer inspection, however, they seem rather to have been produced by mechanical means, the edges of the tears or perforations being left smooth and free from ravelings, although not as cleancut as if made by scissors or punch. Carbonization of the edges of the tears, etc., has never been observed, but in the lighter fabrics browning of the edges for a hair's breadth is not infrequent.

Injuries of the human body caused by lightning naturally divide themselves into two groups: (1) external injuries; (2) internal, or visceral.

The external injuries that have been noted are:—

(1.) Burns.

(2.) Ecchymoses or spots.

(3.) Impressions of metallic substances and true metallic marks on the surface of the body.

- (4.) Loss of hair.
- (5.) Peculiar conditions of the eyes.

BURNS.

It is the opinion of some medical jurists that the electric current does not produce burns on the body unless some part of the clothes be ignited, and then of course the burning is an indirect result. This opinion is, however, disproved by well-authenticated cases where the dress of the individual has escaped combustion or ignition, while his body has been severely burnt.

The burns which have been observed differ in degree from mere singings of the hair, superficial scorchings and blisterings of the skin, to extensive cauterizations leading to surrounding inflammatory action. Burns of the skin from the electric current sometimes assume a highly characteristic form, appearing as blue spots, in which the texture of the integument resembles leather shrunk by the action of fire. Metallic substances in the dress, such as stay-hooks, pins, buckles, and the like lead often to severe local injury. In these cases the parts which are burnt are those which lie between the metallic points, the seat of the burning corresponding with the break in the conducting medium. In a medico-legal point of view this is an important fact. It at once suggests the action of electricity or lightning, and where it occurs in a perfect way it may be regarded as diagnostic.

ECCHYMOSES.

Simple ecchymoses and livid spots, having no reference to metallic or other bodies in contact with the body, are sometimes presented on the surface of the body in a marked degree. The color of the spots is sometimes red, and drops of blood may issue from the pores of the injured part without wound of the skin. The spots appear most distinctly over bone, being, in fact, like to a bruise produced by a mechanical blow. The passage of the electric current is not unfrequently marked by discolorations of the skin, often in the form of streaks, which are particularly to be traced in the direction of the spine.

IMPRESSIONS OF METALLIC SUBSTANCES.

Impressions of metallic substances on the surface of the bodies of persons struck by lightning have often been noticed. The validity of these observations was long denied by the masters in electrical science, but is now fully established. The impressions are of two kinds. In the first variety the nature of the mark is very simple. It is an ecchymosis taking the line of the metal, and so producing a rough outline taking the form of the metal. The shock must be received upon a firm surface, such as bone. Impressions of various ornaments, such as a bracelet, a chain, a cross, or of coins, may be most distinctly left upon the body. When these appearances present themselves with undeniable distinctness, we may unhesitatingly refer them to the action of an electric discharge. Something more than a bruise, however, may mark the passage of lightning along a metallic conductor. Fusion of the metal may take place, and the distribution of the particles in fine division may leave true metallic impressions on the surface of the body. Metallic marks precisely similar to those found on the bodies of persons struck by lightning have been produced upon the bodies of animals that have been experimentally subjected to the action of powerful electric discharges. In order to develop the

metallic mark in distinction from ecchymosis or burn, it has been proved that two conditions must coexist. The metallic conductor must be sufficiently fine to offer resistance to the electrical current, and the electrical current itself must be an accumulative discharge of moderately low tension. The flaming discharge which so closely resembles sheet lightning will not produce the effect, although it will produce a burn. The tense discharge got from the jars in cascade will not produce the effect. The discharge required is that from the ordinary Leyden battery, and that of sufficient power in regard to the metal to cause fusion of the metal. A discharge of low intensity would produce heat of the metal and a burn, but it would not fuse even a very thin metal in such a manner as to leave a true metallic stain. A discharge of sufficient intensity to fuse thin metal would fail to fuse thick metal. A discharge of great intensity would produce no metallic impression, and probably no mark at all; in other words, it would not be diverted from its course, but would penetrate the organism. Thus we can determine in some measure from the character of the stain both the intensity of the discharge and the thickness and substance of the metal that has been fused. This is a very important piece of knowledge bearing upon medico-legal investigations. Thus, a person is found dead after a lightning storm; a doubt arises respecting the cause of death, or, if it be clear that lightning stroke is the cause, respecting identity of person. In such a case the detection of a metallic mark upon the body would be of the greatest moment. It would not only demonstrate the cause of the death, but the portion of skin containing the mark might be carefully dissected out and an idea might be obtained as to the metal that had left the stain. Moreover, by subjecting the part to chemical analysis the precise metal might be obtained. Armed with these two facts the medical witness could not only say that the mark he found on the body was a true metallic mark, but he could further say that the deceased at the time of being struck wore or carried a certain metallic substance of gold, silver, copper, or other metal.

Arborescent marks, naturally though wrongly supposed to be representations of the figures of trees fixed on the body, in miniature, by lightning, have been often noticed. This arborescence was correctly described and interpreted aright by Beccaria more than one hundred and twenty years ago. It may be fully accepted as a fact, and when it is found upon the body the evidence of lightning stroke is complete. The arborescence is not, however, the figure of a tree impressed on the surface of the body by the electrical discharge. It is an anatomical outline of the trunk and branches of superficial veins of the body of the subject, which the lightning, choosing the best conductor (namely, as before stated, the metallic chain of the blood), had followed out to its minutest ramifications, so that the figure of the veins appears through the veins penciled out finer than any pencil could have drawn it. The blood in these cases undergoes arrest of its motion, expansion, and possibly decomposition.

LOSS OF HAIR.

In some cases where the nervous centres have been particularly involved after lightning shock, and where paralysis has occurred, the life of the hair has been destroyed, and the individuals have become completely hairless and remained so.

AFFECTIONS OF THE EYES.

Two peculiar conditions have been noticed affecting the eyes of persons who have been killed by lightning. Sometimes they are found brilliant and protruding, so that the eyelids cannot be closed over them. Exactly in the two lateral segments of the albuginea thus left open, dark, bloody spots are observed, which may be considered as a sanguineous capillary infiltration, or electrical burning. These spots are of a conical form, much resembling an inverted pterigium. They occupy the sides of each eye, with their bases towards the iris, and their acute angles corresponding to the internal and external angles of each eye. This mark of death from lightning is usually, but not invariably, accompanied with an injury of the epidermis resembling a burn. Some portions of the epidermis are found separated and rolled up and crisp, and sometimes wounds of an oval shape are noticed passing from right to left in an oblique direction and extending into the cellular tissue. These spots on the eyes are not imitable by human art, and may be considered, therefore, as thanatognomonic signs.

When the second condition referred to exists, the eyes present a uniform bluish cast, like a film over the pupil. This phenomenon is caused by a change in the structure of the cornea, which consists in a coagulation of the plasma taking place between the conjunctiva and the middle elastic coat. This change to opacity is instantaneously produced, and sometimes renders the cornea white and opaque throughout, like a bit of gristle, and remarkably thick. Beyond this injury there are usually no other changes; the aqueous humor, the crystalline lens, and the vitreous humor are left uninjured. Again, one pupil may be found closely contracted, while the other is widely dilated. In all these instances the shock has passed on the side of the head in which the pupil is contracted.

Before detailing the visceral lesions which distinguish death by lightning, let me caution the medical examiner against the hasty employment of the scalpel. The possibility of an ante-mortem autopsy must be borne in mind, and avoided. Simulated death from lightning is not an uncommon event, and it would be the easiest thing in the world to look upon a man struck by lightning as dead, when in truth he is not dead. He may be rendered insensible to pain, unconscious, and to common observation dead, and yet he may be capable of spontaneous recovery. Nay, he may exhibit several of the phenomena which are usually, and in most cases correctly, regarded as positive signs of death, and he may, notwithstanding, recover. Thus, in a case of apparent death from lightning, it would be wrong to decide too hastily that life is extinct merely because there is absence of any indication of motion of the heart. The pulse at the wrist may be imperceptible, we may fail to detect any impulse or sound of the heart, or any arterial pulsation whatever, and yet, on opening the thorax, the heart might be found still beating, feebly, it is true, but not so feebly but that the normal action might have been reëstablished, and recovery have taken place. As a rule persons who have been stunned simply by an electrical or lightning shock show signs of reflex motion, so-called, when an irritant is applied to the eye, or when the skin is pricked over a muscle. The absence of any exhibition of reflex action is usually certain evidence that living action is suspended, yet this rule must not be taken as invariable. Again, absence of color in

semi-transparent structures, as, for example, the hand, when tested by the passing a strong light through them, and observing if the red color which is seen in the living parts is absent, ordinarily a good sign of death, and the decrease of the temperature in the cavities to the temperature of water exposed to the surrounding air, a fair proof of death in warm-blooded animals, must not be accepted as absolutely reliable in the case of persons who have been left apparently dead after lightning shock.

The positive signs of death are three: (1) rigidity of the muscles; (2) coagulation of the blood; (3) decomposition of the tissues.

RIGIDITY OF THE MUSCLES.

If muscular rigidity be general, and the muscles of the chest be rigid, the evidence of absolute death is sufficient. But a partial or local rigidity of muscle, as of one limb, is not sufficient evidence.

COAGULATION OF THE BLOOD.

This is a ready and good sign of death. In the human subject the largest vein that can be found immediately upon the skin should be laid freely open, a fillet being first applied above the place for the opening. If, then, in the vein there be found a coagulum, the inference is fair that the process of coagulation is complete, and that the restoration of life is impossible.

DECOMPOSITION OF THE TISSUES.

The occurrence of decomposition of the body is the final proof of absolute death. In the absence of distinct coagulation of the blood in the venous system, and of general rigor mortis, evidence of decomposition ought always to precede dissection or the act of burial.

In a forensic point of view it is important to remember that the statement of John Hunter, so long accepted as authoritative, namely, that "animals killed by lightning and also by electricity have not their muscles contracted," is a fallacy. Rigidity of the muscles after death from this cause is an invariable fact under all conditions that admit of the process of rigidity. The rigidity is well marked, often intense and prolonged. The persistence of the rigidity is in proportion to the intensity of the rigidity itself (from forty-eight to ninety-six hours). The conditions favorable to the development of rigor mortis are good development of muscle, death without great preceding exhaustion, and exposure to a warm temperature. In the absence of these conditions the rigidity would be delayed and reduced in character, but it is doubtful if even then it would be wholly wanting.

For instance, if a man or animal after being struck were to be exposed to cold, and especially to a current of cold air, or if an animal were very thin and cooled quickly, the delay mentioned would take place, but the delay would bear no kind of relationship to the lightning shock as the mode of death. Bearing these facts in mind, we can easily reconcile the conflicting statements on record concerning thunder-struck subjects, to wit, the entire absence of rigidity on the one hand, and such phenomenal development of rigor mortis on the other hand, as to deserve the epithet stony or statue-like.

However the fact may be explained, — and it awaits explanation, — coagulation of the blood *within the body* after death is delayed by lightning shock. There is coagulation, but it takes place slowly within the ves-

sels; on being set at liberty, however, it undergoes the natural process of coagulation. In every case of death by lightning discharge, and by whatever form of discharge, the blood is changed in color, and in so far as color is concerned arterial is changed into venous blood. If the blood thus changed is exposed freely to oxygen the normal color is restored. In that extreme condition of complete disorganization which is sometimes observed after lightning shock the blood is left fluid and incoagulable, the body is distended with gas, and the destruction of organic parts is well-nigh universal. The blood in such cases is decomposed throughout the body, precisely as it is decomposed in the laboratory when the Leyden shock is sent through closed tubes charged with blood. The color of the blood is changed to a deep black, the gases of decomposition are instantly set free, while in a greater or less degree the same change extends to the soft solids. In a word, there is general decomposition. In any case in which the body of a person who but a short time before was known to be alive is found dead and in the condition described, we need be at no loss to refer the death to its true cause.

Beginning with the brain and passing downwards through the different organs, let us now describe the changes which have been found in the viscera when death by lightning has been unaccompanied with instantaneous disorganization and decomposition.

Brain. The vessels of the brain and its appendages are found distended. The sinuses are enormously distended, more so than the quantity of blood which they hold would seem to account for. The arteries, on the contrary, are contracted and nearly empty. Occasionally a small effusion or a film of blood, showing rupture of the vessel, may be found beneath the arachnoid. In some instances the brain itself (as far as mere observation with the naked eye is of value) apparently escapes injury. Its structure is of natural pink hue, and congestion of the minute vessels and vascular points are absent altogether. The same observation extends to the medulla and the spinal cord. The cord itself is healthy, and there is no turgescence of the vessels. In other instances, particularly when death has been delayed for several days, extensive effusion and coagula resembling those of sanguineous apoplexy have been discovered. Often on lifting up the brain and the medulla there is a free escape of bubbles of gas.

The membranes show great redness and vascularity in parts, whenever the fatal discharge has coursed from the head to the lower extremities.

The Lungs. The lungs are usually found natural, left filled with air and of a pink color and free of any trace of congestion. On the pleural surface small ecchymoses are sometimes found, indicating the course the electric current has taken. It is not usual to find signs of injection, redness, or effusion.

The Heart. The heart in all cases is gorged with blood on the right side, and not unfrequently the left side contains a large quantity of blood. The blood is darker than usual in the venous, and very dark in the arterial chambers. There may be rupture of the muscular wall of one or more of the cardiac chambers with exudation of blood; such rupture of the heart is not uncommon. Ecchymosed spots are sometimes found on the surface of the pericardium, and excess of fluid in the pericardial sack.

Alimentary Canal. The alimentary tract is an excellent conductor of the electric current, and important changes are found in it in most cases of death by light-

ning, and some changes in all. Occasionally the walls of the stomach are ruptured, or they may be found softened as if in the early stage of gangrene. The intestines throughout the whole tract of the small intestines are sometimes intensely injected through their structure and of a dark purple color. In one case, in which the individual survived the shock for a few days, the stomach, after death, was seen to be gangrenous within, over a large extent, while the external surface was inflamed and livid. The inflammation was not that of great action. The gangrene, commencing near the cardia, extended over the whole of the stomach to within two inches of the pylorus. A portion of the meso-colon of the size of a half crown was of a bright red color, and of a very fine, delicate membranous texture. In a forensic point of view the knowledge of these effects of lightning shock on the alimentary system might be very important. In a doubtful case of death after lightning shock, these appearances might be mistaken — and that readily — for the effects of an irritant poison.

Liver. Rupture of the structure of the liver and of the gall-bladder are lesions that occasionally present themselves. Usually, however, the gall-bladder is greatly distended, and the liver itself colored deep red, although of normal consistence.

Peritoneum. In some cases the surface of the peritoneum presents a line of deep, dark, ecchymosed spots. These spots are well defined, dark as jet black ink-stains, often arranged in a line mapping out the course which the electric current had pursued in its passage through the body.

Kidneys. The kidneys are always found congested, but not subject to any other lesion, the congestion itself being connected with the congestion of the larger blood-vessels and of the left side of the heart. It would appear to be a secondary result.

Such are the gross appearances, so far at least as I have been able to ascertain, which in a doubtful case of death by lightning may be regarded as of diagnostic value. I regret that in exploring the literature of the subject I have failed to meet with any record of microscopical examinations of the nerve-cells and other tissues.

RECENT PROGRESS IN MATERIA MEDICA AND PHARMACY.¹

BY WILLIAM F. BOLLES, M. D.

ZINGIBER.

MR. J. C. THRESH read at the British Pharmaceutical Conference recently the first complete analysis that has ever been made of this important drug; his researches were conducted with large quantities and in the most thorough manner, and have resulted in separating and weighing twenty different substances, of which the following are the most characteristic:—

(1.) From the ethereal extract,

Volatile oil	0.75 to 1.61 per cent.
Fat, wax, resin, &	0.70 to 1.22 per cent.
Neutral resin	0.86 to 2.30 per cent.
Resins α and β	0.31 to 1.47 per cent.
Gingerol	0.60 to 1.45 per cent.

and a tasteless amorphous substance.

¹ Year Book of Pharmacy. Pharmaceutical Journal and Transactions. Chemist and Druggist. Proceedings of the American Pharmaceutical Association. American Journal of Pharmacy. New Remedies. The Pharmacist and Chemist. Canadian Pharmaceutical Journal, etc.

(2.) From the residue,

Starch	13.50 to 18.75
Metarabin	1.86 to 28.09
Pararabin	2.49 to 14.40

and moisture, woody tissues, albuminoids, acids, and other common ingredients.

Of course the two most valuable substances are the essential oil and the gingerol. The former has been isolated and examined before. It is a limpid, straw-colored fluid with a peculiar aromatic odor, by no means recalling that of the rhizoma from which it was prepared, and of an aromatic and somewhat camphoraceous taste. Specific gravity .853. There are probably two or more oils united, as is so often the case.

The gingerol is the active or pungent principle; it is a viscid fluid of about the consistency of molasses, of a pale straw-color, entirely devoid of odor, and of an extremely pungent and slightly bitter taste. It is very soluble in alcohol (even when diluted), benzol, volatile oils, etc. It is neutral in reaction, and has a specific gravity of 1.09. The resins were

permanently white, but if exposed to the direct action of the sun becomes yellow, the crystals as well as the powder undergoing this change. It unites readily with the common acids, but its salts are no more crystalline than those of previous observers, less so, in fact, since Reich had already obtained crystals of the hydrochlorate. Dr. Podwissotsky's crystals of the pure alkalioid were sparingly formed around the edges of a filter upon which a very concentrated petroleum-spirit solution was evaporated.

WHITE QUEBRACHO.

The bark of *Aspidosperma quebracho*, order *Bignoniaceæ*.¹ There is some confusion in name here, although not in substance, for several other entirely different barks used for tanning are known under the general term "quebracho." The above, which has lately been used in dyspnoea due to emphysema and bronchitis, and in South America (where it grows) for many years as a febrifuge in the same manner as cinchona, is the only one of pharmaceutical interest, and it may be questioned whether this may not soon be

ERRATA.

In Recent Progress in Materia Medica and Pharmacy, the following errors occur:—

Page 183, second sub-head, for "Bidara Lant," read "Bidara Laut."

Page 183, under head of Chaulmugra Oil, 19th line of paragraph, for "eocinic" read "cocinic."

Page 184, 1st column, next to last line of text, for "tropine" read "tropina."

Page 184, under head of Ergot, wherever "coindia" occurs read "conidia."

pills with dextrine and mucilage. The dose of the sodium salt is stated to be one third of that of the oleo-resin.

BIDARA LANT.

This is the wood of a tree supposed with good reason to be a *Strychnos*, and probably *S. ligustrina*, which is largely used in India for dysentery. Mr. Henry G. Greenish, having recently received a specimen, has examined it and published his results. It was part of the trunk or branch of a small tree two and a half inches in diameter, with a small excentric pith, exceedingly hard wood, and thin, dark-gray bark, in some places exfoliating, in others quite adherent. Upon a chemical examination he found in the wood 2.26 per cent. of brucia, and the remarkable quantity of 7.38 per cent. in the bark. It contained no strychnia.

EMETIA.

Dr. Podwissotsky has obtained emetia in a purer form than previous observers, the result being a snow-white, very bitter powder, almost crystalline (quite so in a certain case), readily soluble in ether, alcohol, chloroform, and essential oils, sparingly so (one to one thousand) in water. In diffused daylight it remains

mony. MR. JOHN CROSS, after making a pretty elaborate investigation into the chemistry of chaulmugra, has presented his results to the British Pharmaceutical Congress in a rather wordy paper, giving its composition as palmitic, hypogalic, eocinic, and gynocardic acids, in combination with glycerine as fats. Of these the latter only is peculiar, and is the one which yields the characteristic green coloration with sulphuric acid that forms Dymock's test for chaulmugra. It constituted about eleven per cent. of the oil, had the acrid taste of the drug when swallowed, melted at 29.5° C., and crystallized in plates.

CHIAN TURPENTINE.

This venerable substance, mentioned in Genesis and by every classic writer upon medicine, having served mankind acceptably for many centuries, and been respectably retired, has lately got into rather bad company, and appears as a cancer cure. Of course it has been abundantly described in all the text-books and dispensatories for many years, and there is not much new to say about it; but few of the present generation of physicians or druggists in England and America

¹ Apocynaceæ of some writers.

have even seen it.¹ It will, however, now, for a little while, be quite common (one importing firm has already advertised a small quantity of it, supposed to be genuine), and most of the pharmaceutical journals have printed articles upon it, all compilations from older works, or observations so immature as to be of little use. It is a clear, yellowish or brownish-yellow oleo-resin, not unlike in general appearance Canada turpentine, varying in consistency from that of thick molasses to that of a resin brittle when cold, but plastic at summer temperature; its odor is terebinthinous, but slightly peculiar, recalling that of an umbelliferous oil or cajuput mingled with that of mastich. It consists of an oil of the terpene series (oil of turpentine), and a resin (a resin of mastich) soluble in alcohol. There is nothing in its chemical composition, so far as known, that should make it therapeutically different from other turpentines (Canada, American, Venetian, etc.), and nothing in its physical characters which will at present prevent successful imitation. Perhaps the cheaper frankincense would do as well.

DUBOISINA, DATURIA, ETC.

A. Ladenburg, who has studied the solanaceous alkaloids very carefully, has recently examined these, taking his material from Merck, of Darmstadt. The former was received as a brown, resinous, hygroscopic mass, readily soluble in water; the reactions were mainly those of atropia, but the precipitates were resinous. By treating it with gold terchloride a salt was obtained similar to that of hyoscyamia, in handsome, lustrous crystals, having the composition $C_{17}H_{23}NO_3$, HCl , $AlCl_3$, also the same as that of the hyoscyamia salt,² according to his previous observations, and melting at the same temperature, $159^\circ C$. This was decomposed by sulphureted hydrogen, filtered, the liquid concentrated, and treated with an excess of potassium carbonate. A gelatinous precipitate formed, and after some time crystallized in beautiful small needles of the alkaloid, which, when purified, corresponded exactly with hyoscyamia, and this is what he considers it to be. The examination of daturia was similar; the specimen was obtained from the same manufacturer as a nearly crystalline white powder, the gold salt formed and decomposed, the alkaloid purified and obtained, as above, in needles. Its composition and reactions proved that this, too, was pure hyoscyamia.

Hyoscyamia is isomeric with atropia, but differs from it in its melting point, crystals, and other chemical details, as well as perhaps in the intensity of its action.³ It may be decomposed into hyoscinic acid and hyoscina, corresponding to, if not identical with, the tropic acid and tropina of atropia.

These two latter substances in the form of tropate of tropina have been reconverted by Herr Ladenburg, by means of dilute hydrochloric acid, into atropia, thus artificially forming that alkaloid; and he has further produced a series of alkaloids, which he terms "tropines," by combining tropine with different organic acids, and treating the salts in a similar manner.

¹ Good descriptions may be found in Guibourt's Hist. Nat. des Drogues, Planchon de la Détermination des Drogues, Flückiger and Hanburg's Pharmacographia, besides the more common books.

² But Flückiger, quoting Hohn and Reichart, gives $C_{16}H_{23}NO_3$; in the second edition the N is accidentally omitted.

³ The following note, condensed from Proc. Am. Pharm. Ass., 1878, is interesting here: The well-known difference in the medicinal activity of commercial atropia and its salts is due to the practice of preparing it not only from belladonna but also from the leaves and seeds of stramonium (datura).

These combinations have, in varying degrees, the properties of atropia.

PITCHERE, PITCHIRI, OR PITURY,

the leaves and twigs of *Duboisia Hopwoodii*, another solanaceous plant, used by the natives of parts of Australia as tobacco is in civilized countries. Singularly enough, its alkaloid, after much careful examination, having first been described as piturina, turns out to be pure nicotia.

ERGOT.

M. Tulasne, in 1853, published in the *Annales des Sciences Naturelles* his now classical observations upon the development of this drug, and revolutionizes our knowledge concerning it. Little has been added to his investigations, and his plates and descriptions have been copied almost word for word and line for line since.

Mr. W. W. Stoddard has recently gone somewhat over the ground again, having had his attention called to it by the annual sickness and death of sheep on a neighboring farm. After an examination of the water and soil had given negative results, the symptoms—diarrhoea, dysentery, gangrene, abortion, etc. directed his attention toward ergot, which he shortly found growing upon *Lolium perenne*, L., a common pasture grass. In the following April, when the grass was beginning to flower, he found thousands of coindia multiplying rapidly and filling the young grain, but never infesting the stamens. They were from .005 to .007 mm. in length, a little more than half as broad, "curved and divided into two parts, each containing a nucleus. On touching them with a drop of diluted sulphuric acid a cilium or minute flagellum was extruded, and when placed in water had a vibratile motion." (Stoddard.)⁴ He also found these coindia in bread and pastry containing ergot. On the third week in May the "honey dew" made its appearance in several drops upon the stem and also contained coindia. Mr. Stoddard regards this as a bait to insects, which, smearing their bodies with the syrup, carry it and the coindia in it to other plants. The ergot had at this time entirely replaced the grain, and the scleroticum, partly formed, gave off the characteristic trimethylamine odor with caustic potash.

July 18th. The first ergot was ripe.

August 1st. One of the lambs was taken ill with the usual symptoms and was shown at a post-mortem examination to have coindia in the "coffee-ground looking fæces."

At the end of August he placed one or two ergots, that had fallen with the grass upon the damp ground, on the moist soil of a flower pot, and in a few days saw the heads of the mature claviceps protruded and afterwards continued on to complete fructification.

As soon as these heads made their appearance, the oil, which had previously been abundant, dried up and disappeared.

He believes that ergot possesses its greatest medicinal value in the month of August, that it deteriorates soon after, and that it should be gathered as early after maturity as possible; quoting Dr. Kluge, of Berlin, to the effect that it varied according to whether it was collected before or after the harvest. In the former case it had an energetic action, in the latter it was often quite powerless.

⁴ Two cuts showing the germination of the spores and of the coindia may be seen, copied from Kuhn, in Luerassen's Medicinisch-Pharmaceutische Botanik.

Medical and Surgical Journal.

THURSDAY, AUGUST 19, 1880.

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VERIFICATION AND CORRECTION OF THERMOMETERS.

WE have recently received from Dr. Leonard Waldo, astronomer in charge of the Thermometrical Bureau of the Yale College Observatory, the following prospectus of the work now being accomplished in his department. We think it unnecessary to do more than allude to the importance of the matter which Dr. Waldo urges upon the notice of medical men. It is undoubtedly true that many physicians will be surprised to learn that thermometers in which they place great confidence are not always reliable. The opportunity offered by the Yale College Observatory for the proper correction of these indispensable instruments should be used by all who wish to be correct in their case reports. The following is from Dr. Waldo's announcement: Statistics show that several thousand thermometers of refined construction, and graduated on the stem to 0.2° F. or thereabouts, are annually procured for physiological researches and daily practice by the medical practitioners of our country alone. The majority of these thermometers are newly made (within six months), and their verification depends (from the scientific stand-point) on inferior thermometers in the hands of individual makers. It is needless to say that in seeking the true temperature of a patient, or in collecting data in cases which the physician wishes to publish, the readings of such thermometers have but little value.

The makers of thermometers in our country have generally been content to use for their standards thermometers which have been compared at some foreign observatory, or with some more easily accessible instrument in which they place confidence, as one in the hands of a friendly neighbor. Thus it happens that many thousand American clinical thermometers have been sold, which do not depend upon a comparison with a recognized standard for their scale readings. The result has been that the American instruments have suffered in the estimation of scientific practitioners. This is not so much the fault of the American makers as their misfortune in not having the same facilities offered them by the properly equipped observatories on this side of the water, which their favored competitors enjoy abroad.

The meteorological observers in this country at present have no common standard of easy access; and it seems eminently proper that the observatory should undertake to be useful to the medical profession and the meteorologists in this country, and afford the

means of comparison desired. With this end in view, the observatory has accepted the aid of the Board of Directors of the Bache Fund of the National Academy in obtaining the standards of the foreign observatories, and has made provision for the constant determination of the errors of the standards themselves. The following is the official circular of the Thermometric Bureau:—

CIRCULAR CONCERNING THE VERIFICATION OF THERMOMETERS.

This Bureau has been established by the Corporation of Yale College, at the recommendation of the Board of Managers of the Winchester Observatory, in order to afford desired facilities for the adequate verification of thermometers.

Thermometers will be received by the observatory for the purpose of comparison with the observatory standards, and certificates of comparison signed by the astronomer in charge will be issued with thermometers so compared. These certificates will contain a statement of the corrections to be applied at intervals of five or ten degrees of the thermometer scale to cause it to have the same reading as the observatory standards. In general these corrections will be expressed in tenths of a degree Fahrenheit, or in twentieths of a degree Centigrade.

Thermometers sent for verification must have a name and number engraved upon them; and thermometers which are not graduated on the glass stem must be of sufficiently good workmanship to satisfy the observer in charge that the scale will not suddenly change with reference to the glass stem of the thermometer tube, with ordinarily careful usage.

The board of managers have established the following scale of charges for this service, which includes the hall mark and the certificate:—

Standard meteorological thermometers . . .	\$1.00
Ordinary meteorological thermometers . . .	.50
Ordinary maximum thermometers . . .	.75
Ordinary minimum thermometers . . .	.75
Clinical thermometers . . .	.50

There will be a deduction of one fifth of the above charges where more than eight thermometers of one kind are received at the same time. In the case of clinical thermometers the charge will be four dollars per dozen when not less than two dozen are sent at the same time.

For other thermometers than the above the charges for verification will be furnished on application.

The letter of advice accompanying thermometers sent for verification should contain the maker's name, the number of each thermometer, and full directions for reshipment.

All proper precautions are taken by the board of managers to guard against loss or injury; but as it is manifestly inexpedient that a university corporation should be responsible for property in its care for such a purpose, it is to be understood that all risks are assumed by the person sending the thermometers.

LEONARD WALDO, Astronomer in Charge.

Approved and ordered to be published by the Board of Managers of the Winchester Observatory.

C. S. LYMAN, President.

H. A. NEWTON, Secretary.

NEW HAVEN, CONN., June 1, 1880.

The observatory desires to encourage the general verification of thermometers on the part of the members of the medical profession, meteorological observers, and all those persons who have occasion to note temperatures to less than one degree Fahrenheit. The inaccuracies of the thermometers in use by the majority of such persons are considerably greater than is commonly supposed.

It will be seen that the observatory places every facility at the disposition of observers and thermometer makers for the ready verification of thermometers, and there is no good reason why a purchaser should not have an accurate knowledge of the errors of his instrument, should he so desire.

The observatory will make arrangements with hospitals and other institutions using a number of thermometers, for the systematic examination at stated intervals of all thermometers in their use. Such an arrangement precludes errors arising from the use of newly made instruments which have been verified, but whose scales have not yet attained an approximately permanent position.

For the present the comparisons of clinical and meteorological thermometers will be made with a water bath, in which the water is brought to a given temperature, and mechanically agitated before the comparison is made. The standard to which the primary and secondary mercurial standards will be referred is the air thermometer.

Ordinary thermometers are returned within three days from the time of their reception if the observatory charges for verification are remitted with the thermometers.

In case they are not so remitted, they are payable upon notification by the observatory that the thermometers are ready to be returned.

Dealers and manufacturers furnishing satisfactory references to the observatory may open an account, to be settled quarterly, beginning with January 1st of each year.

The following standards are used by Dr. Waldo for the verification of thermometers: Kew Observatory; Fastré and Ainé of Paris; Casella, London; Fuess, Berlin; Baudin, Paris.

COLOR-BLINDNESS AN ISSUE IN POLITICS.

CONNECTICUT is the first State to pass a law requiring all railroad employees to undergo an examination by medical experts in regard to color-blindness and visual power. As a pioneer in this field in our country her experience will be watched with interest. The law goes into force from the first of October this year. The State Board of Health was directed to prepare rules and regulations for the examination and re-examination of such employees, prescribing the method

in which, and the intervals at which, such examinations shall be made, the maximum fee to be charged for each examination, the form of certificates to be issued by the examiners, and any other regulations deemed necessary by the board. The board is also entrusted with recommending annually two or more medical experts qualified to conduct these examinations for appointment by the governor. On or before the first day of October every railroad company and trustee operating any railroad in the State must cause every person in their employ as locomotive engineer or fireman, train conductor or brakeman, station agent, switchman, flagman, gate-tender, or signalman, to be examined at the expense of the railroad company by one of these examiners appointed by the governor. The regulations for conducting the examinations and the standards for each class are determined by the Board of Health, and the examiners are to report to it.

Having resolved to take this step, as we think, in advance, the legislature took it boldly and passed an act covering the ground completely. But the heart of the Republican State Convention was fired by the tyranny about to be exercised when it was discovered that of the three thousand employees of Connecticut railroads at least one half are republican voters. It accordingly passed a resolution demanding "that the next legislature make such alterations in the act, to which we have referred, as to require only the examination of those employed on railroads by practical tests in the hands of practical men." This was accompanied by other resolves euphemistically described by a Hartford daily "as rather in the nature of advice to the Board of Health than an appeal to voters, and as giving voice to the calm feeling of the people on this subject, which has been rather run away with in the zeal to have it thoroughly done."

Connecticut is not to be allowed to crush her free citizens under the weight of "sumptuary" legislation without a gallant effort on the part of their natural protectors, the politicians. Is it not better that trains should collide rather than that four per cent. of three thousand men, fifteen hundred of whom are republican voters, should be forced to adopt some other occupation than the one of their predilection? The present is simply one of many occasions full of instruction for observing the struggle between the original wild man, or his first cousin the *practical* man, and the requirements of a more highly developed civilization.

MEDICAL NOTES.

— We have just received the report of the transactions of the American Dermatological Association, containing the address of the president, Dr. Duhring, at the meeting a year ago, and the discussions. Dr. Duhring's paper gives an account of the literature of dermatology in this country from the earlier times, and is a faithful and judicious criticism of the work done in this department in America. The meeting of the present year will be held at Newport, at the end of the month. We trust the Transactions will appear a little more promptly in future.

— The September number of the *North American Review* will contain an article on the ruins of Central America, by M. Charnay, the leader of the expedition now exploring Central America under the auspices of the American and French governments; also a paper on the trial of Mrs. Surratt, containing many new facts, written by the only surviving member of her counsel.

— Macmillan & Co. have in press, for publication in the early fall, a book which is likely to be of value to the medical profession and of advantage to the general public. It is entitled *Food for Invalids*, and is written by Dr. J. Milner Fothergill, of London, and Dr. H. G. Wood, of Philadelphia. The aim of the authors has been to furnish the profession with a standard reference book on the subject treated.

— The following from the *British Medical Journal* will give an indication of the chaotic state of the coroner laws and management in Great Britain:—

An informal inquiry was held at Abergele on Friday in last week, over which Dr. Pierce, the coroner, presided, respecting a quantity of human bones which had been found collected together, and which had given rise to a great deal of curiosity and excitement. Dr. Pierce pointed out that they were the bones of three individuals of different ages, and explained that they had been used in scientific studies. He thought that they had been gathered from the surface of church-yards by the scientific investigator, whoever he was, and narrated some instances which went to show that, forty years ago, it was tolerably easy to make such a collection of the relics of "poor humanity." He further remarked that, had the bones been the remains of a murdered person, the probability was that they would have been burned, or otherwise destroyed, instead of being carefully buried in an earthenware vessel. The general opinion of the persons present at the inquiry was that the "mystery" had been lucidly explained, and Dr. Pierce took the opportunity of expressing his opinion that medical men alone ought to fill the office of coroner. "The explanation," says the *Carnarvon Herald*, "given by Dr. Pierce redounds greatly to his credit and that of his profession, and the case is certainly one which may be cited with propriety whenever an argument is raised as to whether legal or medical gentlemen have the better qualification for the coroner's office. It is also satisfactory that, by the complete unravelment of the 'mystery,' the principality has no longer attaching to it the suspicion of a foul crime, which a certain section of the press seemed to be only too anxious to establish." And further remarks: "As things are, and according to the arguments that are allowed to prevail among some people at present, any legal booby who has passed the required examinations can be appointed to the onerous and most responsible office of coroner. I have heard—and I have heard it with a feeling akin to dismay—that it has been contemplated to make barristers, and barristers only, coroners in future. A more nonsensical proposition was surely never advanced. A close-shaven barrister, with an expensive wig, and devoid of surgical, anatomical, or

medical knowledge, would have looked very foolish with the assorted collection of bones before him at Abergele on Friday in last week."

— A Belgian correspondent of the *British Medical Journal* writes that just at present the profession in Belgium is a good deal exercised on the subject of the laws relating to the admission of foreign practitioners. By the latest enactments, any doctor or licentiate in medicine of a recognized school may, at the minister's discretion, be granted permission to practice medicine. This permission may also be refused absolutely, or the candidate be called upon to undergo an examination in any branches of medical knowledge in which he was not examined at the time he obtained his diploma. A powerful opposition has been stirred up against this certainly not unduly liberal measure. A cry has been raised that the Belgian standard of medical education is really higher than that of most other European schools, and that consequently practitioners who have passed the searching ordeal of Liège, Brussels, or Louvain are prejudiced by the admission of men who have passed in certain of the English, French, or German schools. The agitation is scarcely likely to be successful so far as the repeal of the existing law goes. Nevertheless, it has to some extent answered its purpose, in that the government is becoming extremely chary of admitting even well-qualified foreigners to the privilege of practicing in Belgium. This is to be regretted for more reasons than one; although, as reciprocity is not conceded by England in this matter, English practitioners can hardly complain when they are left out in the cold in other countries.

Miscellany.

LETTER FROM NEW ORLEANS.

MR. EDITOR, — The geographical position of New Orleans, its intimate commercial relations with the permanent seats of yellow fever and with most parts of the western and southwestern States of the Union, together with its semi-tropical climate, render its public health a matter of deep and wide-spread interest. This has been particularly manifest since the epidemic of 1878, and does not seem to diminish in 1880, though 1879 was a year of unprecedented healthfulness. Undoubtedly there was an apprehension, on the reorganization of our Board of Health in April last, that a great reaction would take place in its quarantine policy, which would allow the importation of yellow fever infection. In fact, great changes have been made in this respect, for quarantine now applies only to a few ports known or strongly suspected to be infected; whereas, in 1879, it extended to all the West Indies, except the Bay Islands, together with the whole eastern coast of the mainland, from Texas to Buenos Ayres. Besides, last year the period of detention at quarantine was twenty days, at first; while this year it is only three days for vessels in good sanitary condition, or not less than five days from an infected port to the city.

There was probably also some fear that the fever would again spring up from its old ashes, as it had in 1879 at Memphis and Morgan City, as well as New

Orleans; and therefore it is not surprising that the anxiety of sanitarians in the neighboring States led the National Board of Health, early in June, to establish a system of inspections for merchandise shipped inland from New Orleans, by both railroad and steamboat. The actual discovery, on July 10th, of a case of yellow fever on the bark *Excelsior*,¹ after her arrival in port from quarantine, was therefore the signal for further action on the part of the State Board of Health of Mississippi, and personal certificates were required of all travelers from New Orleans who proposed to stop in that State, showing that they had not exposed themselves to infection. This requirement continued in force until a week ago, and the inspection of freights still continues. It was known that a portion of the coffee which formed the cargo of the *Excelsior* had been shipped from this city to various points, before the case of yellow fever had been discovered, and people naturally determined to take no more risk of this kind.

This *Excelsior* affair has created a profound impression in other communities, but here the chief apprehension has been that it would lead to interruption of intercourse with other people. Those who were cognizant of the whole facts never apprehended a spread of the disease, but those at a distance have acted as people usually do in conditions of uncertainty and distrust.

The operations of the National Board of Health, in 1880 as in 1879, have greatly contributed to allaying fears and preventing interruption of intercourse. Thus far its most valuable services have been rendered in organizing and conducting a system of inland quarantine, and our city especially has enjoyed its benefits. The restrictions imposed on traffic, under the rules of the National Board, have not been felt as a serious inconvenience, and have been cheerfully submitted to, both by travelers and shippers, in the full conviction that the regulations of independent local authorities would press far more heavily.

The efforts of our Auxiliary Sanitary Association this year have been directed mainly to inaugurating a permanent system of works for flushing the street gutters with river water. The plan is to lay a twelve-inch pipe along the river front, with outlets at all the intersecting streets perpendicular to the river, and to send through the gutters a sufficient volume of water to sweep them clear of all accumulations, whether solid or liquid. The water is raised from the river by a powerful pump, and the natural slope of the ground from the river-bank backward carries the water to the drainage canals in the rear of the city, whence it is raised by the drainage wheels into tail-races and conducted onward to Lake Pontchartrain. The length of pipe already laid along the front amounts to 13,370 feet, at a cost of about \$46,000, and it is purposed to continue the work next season. This is in fact the only work of permanent public improvement now in progress in New Orleans, and it is not done by the public authorities, but through contributions raised by a voluntary association of citizens. The city government is unable to undertake any work of such magnitude, for want of means, as the lately adopted constitution of the State limits municipal taxation to ten mills per dollar on the assessed value of property, unless the people of the municipality, by a special vote, authorize an increased tax for works of public improvement.

As might be expected, the sum appropriated for

¹ See New Orleans Medical Journal for August.

sanitary purposes under direction of the Board of Health is ridiculously small, being only \$10,000, or at the rate of less than five cents a head of the population. This amount does not suffice for paying the sanitary inspectors and policemen now in service of the Board, and for many years their salaries have not been paid during the closing months of the year. Those who appreciate the value of public health and the cost of sickness of course understand the poor economy of retrenchment in expenses for sanitary purposes; but either the millennium is still too distant, or the evolution of our race is too imperfect, for the average politician to think such matters worthy of his attention.

Great epidemics are not an unmixed evil. New Orleans and Memphis are making practical application of their late lessons in sanitary improvements of a permanent character, which would not otherwise have been undertaken, and it is not probable that such visitations will again occur, at least during the present generation.

During the earlier months of the year scarlet fever and diphtheria were moderately prevalent, while whooping-cough and measles were epidemic. In consequence our rate of mortality was rather high for several months, but it has diminished with the advance of the hot season, and at present we can claim to have the healthiest large city in the country. During the last week in July the total mortality was 76, and the first week of August 89, giving an annual ratio per 1,000 of 18.32 and 21.42 respectively. If it is considered that this happens at the most critical time of the year, when we have most reason to dread an outbreak of our special enemy, then it must be acknowledged that we have special reason for self-congratulation.

S. S. H.

NEW ORLEANS, August 9, 1880.

LETTER FROM LONDON.

THE PARKES MUSEUM OF HYGIENE.

THE following account of the Parkes Museum of Hygiene in London is from the pen of Eliza M. Mosher, M. D., whose article on Medical and Sanitary Matters at the Women's Prison at Sherborne, where she for some time was attending physician, many of our readers will remember.

MR. EDITOR,—Among the many institutions in London founded for the public good may be numbered the Parkes Museum of Hygiene, which, though still in its infancy, promises to become a most valuable means of disseminating information on sanitary subjects so much needed by all classes of people. As regards the origin of this museum we quote from the report read at the opening meeting, held at University College, London, June 28, 1879:—

"When Dr. Parkes's lamented death occurred, in the spring of 1876, it was strongly felt by his professional and personal friends, as well as by those who had known him officially, that some steps should be taken to perpetuate the memory of a man whose existence had proved of almost unparalleled utility to others; whose life had been from first to last unselfishly devoted to the benefit of his fellow-creatures; whose scientific attainments were of the highest order; and the beauty and perfection of whose moral nature were such as to inspire affection and respect in all with whom he came in contact. At a meeting held at the residence of Mr.

Erichsen, on April 10, 1876, it was resolved by those present to attempt to found a memorial to Dr. Parkes of such a character as to aid scientific investigation and practical study in the subjects to which Dr. Parkes had been especially devoted; and at a public meeting held under the presidency of Sir William Jenner, on the 18th of June, 1876, it was unanimously resolved that the memorial should take the form of a museum of hygiene."

The council of University College generously offered a suite of rooms for the museum, which enabled the executive committee to begin the collection with a comparatively small capital, and the museum was formally opened to the public on the 28th of June, 1879. The articles exhibited, all voluntary contributions, are arranged in six groups under the following heads:—

(1.) Engineering and local hygiene. (2.) Architecture. (3.) Furnishing. (4.) Clothing. (5.) Food. (6.) Preservation and relief.

Each of these sections already contains some valuable specimens, appliances, charts, etc. In class II. may be seen illustrations of the application of hygienic principles to the design and construction of dwellings and public buildings, contrivances for properly ventilating, heating, and lighting, so far as these come within the province of the architect; various apparatuses, more or less complete, for the removal of sewage matter, the prevention of a return of sewer gas into houses, etc., etc.

In addition to these a valuable library has been begun, which gives promise of becoming one of the most complete departments of the museum. It already contains several hundred volumes relating to subjects illustrated in the different sections.

"During the past winter a series of demonstrations was given on Saturday afternoons by members of the executive committee. The first series, by Professor Corfield, Dr. Steele, and Dr. Poore, was given for the benefit of the Workmen's Club and Institute Union, and comprised the subjects of House Drainage, Ventilation, Lighting and Warming, Food, and the Management of the Sick-Room.

"The second series, by Professor Corfield and Rogers Field, was given to members of the Institution of Builders' Foremen and Clerks of Works, and comprised the subjects of Ventilation and House Drainage. Both series were numerously attended."

The first public annual meeting was held at the Mansion House, July 27, 1880, the Lord Mayor presiding. The meeting was largely attended by both ladies and gentlemen. Among those seated on the platform were Sir William Jenner, Dr. Erasmus Wilson, Mr. Erichsen, President of the Royal College of Surgeons, Mr. Joseph Fayrer, Dr. Sieveking, Mr. Berkley Hill, Miss Müller, of the London School Board, Mr. Rogers Field, and others. Dr. Poore, the honorable secretary, stated that a considerable amount of encouraging support had been afforded to the museum during the year. Since January 1, 1880, 2166 visitors have been recorded. Besides these, professors of hygiene have brought their classes for practical teaching. The large collection of appliances for the hospital and sick-room has attracted nurses from the various training schools, while artisans and builders have here found much that was instructive and helpful to them in their work; thus it is evident that the institution has not only been made use of by the casual visitor, but also for the purpose of affording systematic instruction to persons inter-

ested in special subjects relating to the great one of hygiene.

ELIZA M. MOSHER, M. D.

LONDON, July 30, 1880.

GREEK AS A COMPULSORY SUBJECT OF PRELIMINARY EXAMINATION FOR MEDICAL STUDENTS.

At the late session of the General Medical Council, of Great Britain, a motion was made that Greek be included among the compulsory subjects of preliminary examination for medical students. Fortunately, as we think, it did not prevail. The sentiments of the *Louisville Medical News* touching this question are ours: "In bad English eulogize the Greek," sang Saxe; but we are delighted to see that when it comes to the 'good English' who represent the Medical Council of Great Britain, they don't do it so far as physic is concerned. It was remarked by one of the gentlemen that 'Greek would be cultivated for its own sake.' That is a broad enough bottom for it to stand on, and there is no danger of its perishing. We have an occasional 'Dr. Haughton' in this country, but we are glad to think that there are not many who represent his extreme views on the question of Greek. The old saying about 'who shall watch the watchmen' applies with wonderful force to medicine. Profound general education is not common even in the highest ranks—not perhaps even among those who are loudest in their demands for impossibilities in preliminary education. Heaven and the several faculties know that the average American medical student is not overloaded with antecedent lore. We wish greatly for him to be improved in this respect. Meanwhile we would not slay him with Greek—we would commence mildly with fair spelling."

CORRECTION.

MR. EDITOR,—The article entitled A Fatal Case of Fatty Embolism, in the JOURNAL, June 17th, and alluded to by Dr. H. E. Marion in his report of the same case, in the JOURNAL, August 1st, was published with the assent and approval of the attending physician, Dr. Alphonso Brooks, of Boston. Moreover, I temporarily saw the patient for several days for an intercurrent indisposition, while Dr. Brooks was the attending physician.

MARSHALL L. BROWN, M. D.

BRIGHTON.

We decline to be the medium for a continuation of this dispute. — ED.

THE MIRACLE OF THE IODIDES.

Who shall say that therapeutics is without its romance? It was before the laryngologists, in the days of the Second Empire, eight and twenty years ago. R— was the first tenor of Paris. Scarcely any one could sing even second to him, and he held the French capital enslaved within the compass of his gamut. But suddenly his song ceased. Days passed and he came not on the boards. Was he tired? Perhaps. Weeks went by and he warbled not. Was he not well? He was not well. Then weeks ripened into months, and months into years, and R— had been consigned to the brilliant past of the opera. But one day, after a silence of two years, it was announced that he would sing again, and in his old rôle, in Favo-

rita. What a rush there was to see the resurrection, and to judge if the tradition of his song were true! The emperor was there with Eugenie; Magnan, commander of the garrison, a hundred thousand strong; the admiral of the fleets; De Morny, in all his supposed brilliancy; and, what concerns us most, the Ecole de Médecine was out in full force; and Ricord was there in the zenith of his fame. R— never sang better. His melody came by the gushful. The storm of applause shook the roof. Rising even above the rest of the din, quaking the towers somewhat, were the plaudits of Ricord, — Ricord who notoriously knew not one note from another, save those upon the Bank of France. Marshal Magnan sat beside him. "How comes it, Ricord," he said, "how comes it thou cheerest the music so vociferously; thou who diagnosest not between A minor and B flat?" Then answered him the great Ricord, "Hang the music, Magnan (*sacre musique!*); it is the iodide of potash I hurrah!" — *Louisville Medical News.*

THE INTERNATIONAL MEDICAL CONGRESS.

THE *London Lancet* says, "The necessary arrangements in preparation for the seventh session of the International Medical Congress, to be held in London in August, 1881, are progressing. The committee have discussed the question of the admission of women to the meetings of the congress, and by a decided majority have determined to issue invitations to male practitioners only. This is the decision we were confident would be arrived at, for knowing the names of the committee we felt that on this, as on other points, they fairly represented the profession, and would not take any step distasteful to the majority of their fellows. The congress is a voluntary association, and none can claim any 'right' to be asked, and the fact that on some former occasions women have, unwisely, been permitted to be present, can in no way hamper the action of the British committee. As regards the practitioners of this country the decision is, happily, theoretical rather than practically important.

"It is now definitely announced that Her Majesty and His Royal Highness, the Prince of Wales, have both been graciously pleased to extend their patronage to the congress. Some few additions have been made to the list of officers printed by us a fortnight ago. Dr. Risdon Bennett and Dr. Bucknill have been added to the list of vice-presidents; Dr. Alfred Carpenter, Mr. Erichsen, Sir H. Thompson, and Mr. G. Pollock have been placed on the executive committee; and Dr. Chepmell, Mr. Mitchell Henry, M. P., and Dr. Grigg have consented to serve on the reception committee. Dr. Braxton Hicks is appointed a vice-president in the obstetric section, and Professor Curnow is a secretary of the anatomy section. The general secretary is already able to state that many well-known and illustrious foreigners intend to be present, among others Langenbeck, Virchow, Liebreich, and Walsenburg, and there is every prospect that this meeting will be a very notable gathering of professional celebrities. It must be the aim of all British practitioners to make this session worthy of the metropolis of the world, and of the great school of British medicine and surgery. But it can only be this if all will heartily and generously coöperate and support the executive committee with thorough confidence. We repeat that

the composition of that committee must be accepted as satisfactory; it is not a committee of a clique, but of the whole profession, and these gentlemen certainly deserve to be treated with entire confidence in the somewhat difficult task they have undertaken. We would strongly deprecate the raising of difficulties and objections which can only have for their object the discomfiture of the committee and the impairment of the success of the congress. No doubt it is possible to criticise adversely the selection of the committee, and the presence of some names excites surprise equalled only by that caused by the absence of others. But could we hope for a perfect list? Is it not fair to recognize the difficulty of the choice where every selection entailed a rejection of at least one equally eligible man? From those whose names do not appear at all another complete list of officers could be selected well worthy of the posts to be filled. And where there are so many to choose from, the efforts of the committee should be supported by mutual confidence and forbearance. If personal or local jealousies are to be thrust forward, and the visit of the congress is to be made the occasion for the display of party feeling, the profession in this country will be disgraced in the eyes of the whole world, and it would be well not to hold the meeting at all. We appeal with confidence to the profession to support their representatives on the executive, and to allow them fairly and deliberately to make all arrangements free from the outside pressure that petty jealousies and party spirit, however unworthy, can always exert. Thus alone can the success of this meeting, which all must desire, be attained."

A FEW PRACTICAL REMARKS ON THE SUBJECT OF TROPICAL DYSENTERY.

IN regard to the treatment of dysentery by ipecacuanha, Dr. J. H. Courtenay, of Jamaica, writes to the *London Lancet* the following:—

Some practitioners whom I consulted when I first had to deal with this disease recommended acetate of lead and opium; others advocated calomel and opium; others, small doses of ipecacuanha and opium. Within the past three years I have had to treat upwards of two hundred cases of dysentery, and I can safely assert that until I absolutely adopted the ipecacuanha treatment my results were anything but satisfactory, and since then some of the most apparently hopeless cases have made a rapid recovery.

The chief difficulty that young practitioners experience is their inability to follow one definite line of treatment, so many varieties of administering ipecacuanha are advocated by the different writers on the subject. If I may, without presumption, attempt to simplify this variety of treatment, I think the best means to accomplish this end will be to make a brief statement of the course that experience and a careful study of the writings of others have led me to pursue.

As a preliminary measure, if the dysenteric phenomena have not displayed themselves in too marked a degree, I order half an ounce of castor-oil with ten or fifteen minims of tincture of opium; the patient to be kept quiet and abstain from all solid and irritating food. This failing to check the disease, absolute rest in the recumbent position must be enjoined, twenty to twenty-five minims of the sedative solution of opium administered, and in twenty minutes afterward thirty grains

of powdered ipecacuanha in an ounce of water or syrup of orange-peel. The patient must then be kept perfectly quiet and abstain from all food, fluid or solid, for two or three hours. If the ipecacuanha is vomited immediately after it has been administered allow an interval of about half an hour to elapse, and then repeat the full dose again. In the further treatment of the case ten-grain doses of ipecacuanha should be given every six hours until convalescence is established; and when it is, to guard against a relapse, it is a wise precaution to give five or ten grains at bed-time for a few nights. In addition to this treatment a two-ounce starch enema containing twenty to twenty-five drops of sedative solution of opium, given at bed-time, has an admirable effect in controlling tenesmus and inducing sleep. With regard to nourishment I have never found, in adopting this line of treatment, that the nauseating effect of ipecacuanha produced any alarming intolerance of food; of course, food of the lightest nature, such as beef-tea, chicken-tea, arrowroot, milk, and the like, should only be administered. I think the use of stimulants should be dispensed with unless there is extreme exhaustion, and even then they should be given sparingly and extremely diluted.

And now it will be asked, Does the ipecacuanha treatment never fail, and is it an absolute specific for

dysenteric disease? I can unhesitatingly answer, as far as my experience enables me to do so, that in the great majority of cases it most certainly does not fail, and that its effects are often magical; but I have met a few cases where no precautions or varieties as to administering small or large doses of the drug seemed to be able to avert the absolute intolerance of it. Under these circumstances I administer a bismuth and soda mixture containing five drops of sedative solution of opium in each dose. I also gave a powder containing mercury with chalk and compound ipecacuanha powder every four hours, and an opiate enema at night. Several writers on the subject say that when this intolerance is present hepatic complications are to be dreaded, but happily in the cases I have alluded to no such difficulties had to be encountered, and the disease quickly yielded to treatment; but I consider that when a patient suffering from dysentery is unable to take ipecacuanha his chances of recovery are seriously lessened by such inability. My utmost expectations will be fully realized if this very imperfect outline of the treatment of tropical dysentery enables some new-comers to grapple with a disease that admits of no parleying with, and if the reopening of the subject is sufficient at least to arouse the attention of those who feel a great difficulty in yielding up preconceived ideas.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 7, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	654	337	38.99	28.75	6.27	3.98	1.07
Philadelphia.....	901,380	302	138	26.16	16.89	2.98	.66	4.30
Brooklyn.....	564,400	271	143	36.90	28.78	5.17	2.58	.37
Chicago.....	—	221	142	47.06	33.48	6.33	8.14	.90
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	158	90	39.24	21.52	1.90	3.80	3.16
Boston.....	365,000	249	141	55.02	50.60	5.22	2.41	1.21
Cincinnati.....	280,000	87	40	20.69	9.20	6.90	1.15	4.60
New Orleans.....	210,000	89	36	19.11	5.62	1.12	2.25	3.37
District of Columbia.....	170,000	86	40	18.60	6.98	4.65	4.65	3.49
Buffalo.....	—	45	32	37.78	28.89	8.89	4.44	2.22
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	153,883	65	38	55.38	33.85	6.15	6.15	3.08
Milwaukee.....	127,000	62	42	24.19	17.74	9.68	1.61	1.61
Providence.....	104,862	45	24	42.22	20.00	4.44	8.89	—
New Haven.....	60,000	27	11	18.52	11.11	3.70	—	3.70
Charleston.....	57,000	26	11	11.54	3.85	3.85	—	3.85
Nashville.....	37,000	24	7	33.33	16.67	4.17	—	12.50
Dowell.....	54,000	31	23	45.16	38.71	9.68	—	3.23
Worcester.....	53,000	26	13	53.85	53.85	—	—	—
Cambridge.....	50,400	20	10	25.00	20.00	5.00	5.00	—
Wall River.....	49,000	35	17	17.14	8.57	2.86	—	2.86
Lawrence.....	38,600	22	15	40.91	36.36	4.55	—	—
Ynn.....	34,000	17	10	29.41	29.41	—	—	—
Springfield.....	31,800	13	8	38.46	30.77	—	—	—
New Bedford.....	27,200	17	9	58.82	47.06	5.88	—	11.76
Wilmington.....	26,500	12	5	41.67	33.33	—	8.33	—
Wilmington.....	23,500	12	12	58.33	50.00	—	—	—
Wilmington.....	21,000	17	11	64.71	47.06	—	11.76	5.88
Wilmington.....	20,200	6	4	66.67	66.67	—	—	—
Wilmington.....	18,400	14	12	64.29	64.29	7.14	—	—
Wilmington.....	17,300	15	10	60.00	60.00	—	—	—
Wilmington.....	17,300	2	1	50.00	50.00	—	—	—
Wilmington.....	15,350	8	4	62.50	50.00	—	12.50	—
Wilmington.....	13,500	4	0	50.00	25.00	—	—	—
Wilmington.....	12,600	4	3	75.00	75.00	—	—	—
Wilmington.....	126,310	63	26	28.57	22.22	3.17	1.59	1.59

Deaths reported, 2660; 1429 under five years of age: principal "symptomatic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1033, diarrhoeal diseases 754, consumption 311, lung diseases 134, diphtheria and croup 89, typhoid fever 56, scarlet fever 42, malarial fevers 37, whooping-cough 26, measles 13, cerebro-spinal meningitis seven, erysipelas seven, small-pox two. From *scarlet fever*, Baltimore eight, New York and Philadelphia seven, Chicago six, Providence five, Brooklyn and Pittsburgh three, New Orleans, Buffalo, and Fall River one. From *malarial fevers*, New York 18, Brooklyn eight, New Orleans five, District of Columbia three, Chicago, Baltimore, and New Haven one. From *whooping-cough*, Baltimore six, New York and Philadelphia four, Cincinnati three, Brooklyn and Pittsburgh two, Boston, Providence, Charleston, Nashville, and Bridgewater one. From *measles*, New York, Cincinnati, and Pittsburgh three, Baltimore, Boston, New Orleans, and Lowell one. From *cerebro-spinal meningitis*, New York, Chicago, Baltimore, Milwaukee, Fall River, Lawrence, and Springfield one. From *erysipelas*, Chicago two, New York, Brooklyn, Milwaukee, Somerville, and Newburyport one. From *small-pox*, Philadelphia two.

Nineteen cases of diphtheria, eight of scarlet fever, three of whooping-cough, three of typhoid fever, and one of measles were reported in Brooklyn; small-pox, one in Chicago; diphtheria and croup 26, scarlet fever six, in Boston; diphtheria and croup, nine in Milwaukee, where diarrhoeal diseases were prevailing; scarlet fever 12, diarrhoeal diseases 10, typhoid fever six, measles four, diphtheria four, whooping-cough two, in Providence; scarlet fever three, diphtheria and croup three, in Cambridge; scarlet fever five, diphtheria and croup three, in New Bedford.

Total deaths diminished; deaths under five diminished in

Philadelphia, Brooklyn, and Cincinnati; increased in New York, Baltimore, and Boston.

In 36 cities and towns of Massachusetts, with an estimated population of 1,014,960 (population of the State about 1,690,000), the total death-rate for the week was 30.28 against 31.82 and 28.09 for the previous two weeks.

For the week ending July 17th, in 150 German cities and towns, with an estimated population of 7,671,668, the death-rate was 31.2. Deaths reported, 5412; 2894 under five: pulmonary consumption 444, acute diseases of the respiratory organs 223, diphtheria and croup 97, scarlet fever 69, measles and rubella 66, whooping-cough 58, typhoid fever 51, puerperal fever 14, typhus fever (Elbing, Munich, Berlin, Dortmund two) five; small-pox (Königsbrunn two, Berlin) three. The death-rates ranged from 11.4 in Karlsruhe to 50.1 in Breslau; Königsberg 38.7; Munich 37.8; Dresden 28.3; Berlin 39.8; Leipzig 30.3; Hamburg 26; Hanover 17; Bremen 22.9; Cologne 37.4; Frankfurt 25.2; Strasburg 34.2.

For the week ending July 31st, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 23.3. Deaths reported, 3353: diarrhoea 577, acute diseases of the respiratory organs 200, scarlet fever 133, whooping-cough 65, measles 56, fever 38, small-pox four. Death-rates ranged from 15 in Sheffield to 34 in Brighton; London 24.9; Birmingham 21; Manchester 25. In Edinburgh 17, Glasgow 18, Dublin 28.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 34 deaths from diarrhoeal diseases, scarlet fever nine, acute diseases of the respiratory organs seven, typhoid fever six, diphtheria and croup five, whooping-cough four. Death-rate of Geneva 14.8; of Zurich 22.5; Basle 23.5; Bern 24.5.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
August 1	30.056	78	93	65	70	33	69	57	W	W	SW	10	15	10	C	C	C	—	—
" 2	29.913	76	88	66	70	51	81	67	SW	SW	SW	13	17	14	C	F	F	—	—
" 3	30.004	68	82	62	77	80	94	84	W	N	N	6	12	8	C	O	R	1.10	.57
" 4	30.038	65	77	60	100	86	94	93	NE	NW	NE	10	5	1	G	T	R	—	.39
" 5	30.150	68	76	62	100	68	74	81	0	E	NW	0	4	5	R	F	F	17.50	.19
" 6	30.153	67	77	58	63	56	74	64	NW	E	0	2	8	0	F	F	F	—	—
" 7	30.163	72	85	59	68	46	76	63	NW	E	SW	8	8	7	T	C	C	—	—
Week.	30.068	71	93	58				73										25 00	1.15

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 7, 1880, TO AUGUST 13, 1880.

HAYARD, V., captain and assistant surgeon. To proceed to Fort Clark, Texas, and report to the commanding officer, first infantry, for duty with his command. S. O. 158, Department of Texas, August 8, 1880.

CORRECTION.—Dr. C. F. Folsom begs us to say that his remarks on page 158 of last week's JOURNAL on Dr. Denny's paper should have been stated to the effect that he did not attach the same importance as the reader to slight physical changes like hyperæmia, etc., as indicative of insanity. The statement about coffee belongs to the remarks about the ophthalmoscope, and was that a single cup of strong coffee in some individuals produces as much change in the appearance of the retinal circulation as might lead to the supposition that there was decided hyperæmia if compared with the eyes of other persons or of the same person at another time.

BOOKS AND PAMPHLETS RECEIVED.—The Student's Dose Book and Anatomist combined. By C. Henri Leonard, M. D. Detroit: Leonard's Illustrated Medical Journal. 1880.

Lacerations of the Neck of the Uterus. By A. Reeves Jackson, M. D. (Reprint.)

The Use of the Sphygmograph in Practice. By Abram B. Arnold, M. D. (Reprint.)

The Medical Treatment of Cystocele and Procidencia Uteri. By Eugene C. Gehring, M. D. (Reprint.)

A New Eye Bandage. By Samuel Theobald, M. D. (Reprint.)

Peptonized Milk as Food for Infants and Invalids. By R. J. Munn, M. D. (Reprint.)

Incised Wound of the Elbow. By Thomas R. Wright, M. D. (Reprint.)

Report and Supplementary Report to the Parliamentary Bills Committee of the British Medical Association on Vaccination Penalties. The Principle of Compulsion in Vaccination. By Ernest Hart. (Reprint.)

Transactions of the South Carolina Medical Association. Thirtieth Annual Session, held in Columbia, S. C., April 20 and 21, 1880. Charleston, S. C. 1880.

United States Marine Hospital Service. (Reprinted from Appleton's Annual Cyclopædia, 1879.)

Lectures.

CLINICAL LECTURE ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.¹

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M. D.,
Clinical Professor of Genito-Urinary Diseases, etc.

VI. PERIOD OF LYMPHATIC OBSTRUCTION.

GENTLEMEN, — In resuming the consideration of the so-called tertiary or late manifestations of syphilis, it may be well to recall an important advance in the systematic study of this subject, brought prominently before you at our last session, namely: that while, as a rule, authorities treat of these manifestations as implying the influence and actual presence of a *virus*, a so-called "syphilitic taint" in the blood, yet clinical observers and authorities such as Hutchinson, Lancereaux, Von Burenprung, Bumstead, and others have, somewhat recently, drawn a broad line of separation between the earlier and later lesions due to syphilis, by accepting the former as specific and always associated with a contagious element, and characterizing the latter as "sequelæ," lesions free from any contagious property, and thus strictly personal; incapable of transmission either by inoculation or hereditary influence; not an essential, but merely an accidental, result of syphilis. This, it will be seen, has a tendency to lift the late lesions due to syphilis out of the realm of the supernatural, and lead us to a study of cause and effect through known physiological and pathological processes.

The first positive step in this direction was recognized in the acceptance by authorities of the "gummy material," the "syphiloma" of Virchow and Wagner, as *uniformly* if not *necessarily* associated with all the late lesions due to an antecedent syphilis.

Whether in the skin as a diffuse infiltration of its superficial layers, and resulting in a so-called *scaling syphilide*, or localized in the deeper layers as a *tubercular syphilide*, or in the cellular tissue, in the muscles, in the bones, or in the viscera, as the *gummy tumor*, the constant presence of this still mysterious material was recognized, and always suggested its importance as a prime factor in effecting the mischief with which it was associated. But the most searching analyses had failed to find in it any mischievous property, or to show that it was anything more or less than an aggregation of normal nutritive elements.

It was at this point that I called your attention to the significant fact that during the active stage of syphilis the vessels and organs of the lymphatic system, whose uses, as far as known, are confined to the normal nutritive elements of the organism, were prominently affected, and that too in such a way as to suggest the possibility of subsequent pathological changes in the walls of the lymph channels, and an interference with the lymphatic circulation as a legitimate consequence.

If then we accept the *gummy material* for what scientists have proved it, simply an aggregation of normal germinal elements in various localities and degrees, its exact localization of necessity must be referred to spaces, vessels, and organs of the lymphatic system as the recognized habitat of those elements. In order, however, to account for the localized accumulation of

this material in such degree as to constitute a pathological condition, obstruction of the normal lymphatic channels becomes essential. Now it is that the pre-existence of the syphilitic disease, prominently affecting this especial system, becomes important and furnishes us with the only logical and legitimate explanation of the cause of obstructed lymphatics, and of accumulated normal germinal elements; in point of fact, now for the first time we are in possession of a reasonable solution of the origin and nature of the mysterious *gummy material* of late syphilis.

In the first of the five cases (Case IX.) presented as typical of as many different phases of syphilitic sequelæ, the damage to the tissues implicated in the tubercular eruption was recognized as an atrophy resulting from mechanical pressure. It was seen that loss of substance had not occurred through the ulcerative process. Authority was cited to prove that ulceration was not the necessity in such cases, but that the accumulation of the gummy material, "a diffuse hyperplasia of small cells," was the cause of the "atrophy and absorption of the true elements of the skin tissue." In the remaining four cases the behavior of the accumulation was not so easily appreciated. I propose, however, to-day to continue the consideration of the lesions then presented, and shall endeavor to show among other things that the damage resulting is still (as in the tubercular eruption) independent of any destructive property or constitutional taint *per se*, but that the sources of trouble are purely local, and that the losses of tissue which do occur, result from arrest of the processes of nutrition through *mechanical* disturbance; primarily of the lymph channels, and secondarily of the blood-vessels, with which they are associated.

CASE XIV. This patient gives a tolerably clear history of active syphilis occurring about twenty years ago, and of eruptions more or less ulcerative during two or three years subsequently. Since that time he had enjoyed good health up to five years ago, when his right testicle became enlarged to the size of his fist. He states that under occasional treatment by the iodide of potassium, the testicle grew very much smaller. In fact, he thought the difficulty almost cured; but within the last few months the swelling had returned and had again become troublesome from its increased size. We find here the right scrotum greatly enlarged; not at all sensitive to the touch; and so far like Case XI. of syphilitic testicle, previously examined. But the tumor, while quite heavy, fluctuates very perceptibly, and it is only by firm pressure that a solid material can be felt through the fluid, and this apparently not much larger than the testicle in its normal condition. Application of the light test, in this instance, is not altogether satisfactory, but as no impulse is transmitted to the tumor through the inguinal canal in coughing, we may venture to aspirate it. And now after introducing the needle, as I draw back the piston of the instrument the straw-colored fluid characteristic of hydrocele flows into the glass barrel of the aspirator in quantity sufficient to show that the mass of the tumor was fluid, just filling the receptacle, which registers a capacity of a little more than four ounces. Having removed the fluid, it at once becomes evident that the tumor, while not larger than a normal testicle, is irregular, somewhat nodulated in shape, and especially at the lower portion is very hard, quite like cartilage. As I press it between my thumb and finger there is no complaint of pain until reaching the very top of the

¹ Continued from vol. cii., page 126.

organ, where, as you have seen, the patient shrinks and makes some complaint. This remaining sensitiveness is an evidence that the normal structure of the testicle is not entirely destroyed.

In the post-mortem examination of similar cases it is found that two forms of trouble frequently (and always in long-standing cases) unite in the so-called chronic orchitis of late syphilis, the one usually the earliest to manifest itself being a localized tumor at one or more points in the substance of the organ. This is found to be made up of materials characteristic of the *gummy tumor* occurring in other localities. Subsequently to the occurrence of these tumors a marked growth of fibrous tissue is found to take place, *apparently commencing in the lobular spaces*, and gradually encroaching upon the seminal lobules until they are destroyed; and the elements of new formation traversing in this same way the substance of the entire organ, with cicatricial network, the contraction which naturally follows not seldom results in the total destruction and almost complete disappearance of the organ. This explains what we find in the present instance. The history points to a general so-called gummy infiltration, involving, probably, the epididymes and the body of the testicle, and a later development of fibrous tissue, which has by its subsequent contraction reduced the organ to its present indurated and atrophied condition. It is interesting here to recall the fact, made prominent by all authorities on syphilis, that cicatricial deposit and its subsequent contraction and strangulation of the parenchyma resulting in true atrophy is characteristic of the influence of late syphilis, occurs not alone in the testicle, but notably also in the liver and the kidneys. The tendency to formation of fibrous tissue has also been recognized from apparently the same causes at other points, as in the larynx, intestine, etc. Ranvier and Cornil significantly remark¹ that all profound syphilitic lesions of the mucous membrane occasion a proliferation and a production of connective tissue usually much greater than in diseases due to other causes. It is a well ascertained clinical fact that the gummy infiltration precedes the stage of cicatricial deposit, and that while both the gummy tumor and cicatricial atrophy are often met with in the same testicle, general enlargement *first occurs*; then comes the recognition of localized deposits of gummy material, and later, often several years after, compression due to contraction of cicatricial deposit finally takes place, and atrophy of the testicle results. The clinical evidences are strongly in favor of considering the gummy exudation as the *basis* of the cicatricial deposit, and the different subsequent conditions as but stages of the same pathological process, terminating finally in atrophy, through cicatricial contraction. In favor also of this view, and as affording a possible explanation of the cause and mode of formation of the cicatricial deposits in other organs, due to late syphilis, we may recall the statement of Rindfleisch in regard to the most favorable conditions for the development of new cell formations, namely, "Contact with tissue and *relative rest* of the emigrant cells induces them first to essay their amoeboid mobility and then to division."² But *absolute rest, stasis* of such cells, or of any cells, is necessary for their *development into tissue*. All fibrous or connective tissue is said to be made up of the spindle-

shaped or connective-tissue cells and fibrillæ which are simply a higher stage of development of the lymphoid cells and corpuscles, evolved from and circulating in and through the lymphatic organs, spaces, and vessels. This is exactly the essential material of which *cicatricial tissue*, wherever found, is made up, and this is exactly the sort of tissue which has caused the mischief in this testicle, and which by authorities is accepted simply as one of the many mysterious phases of the so-called tertiary period of the disease. Only a single condition is lacking, however, in order to place this cicatricial deposit, due to syphilis, in the line of ordinary pathological conditions, and that is, one which will account satisfactorily for the presence and quantity of embryonal or formative cells in the localities where the cicatricial tissue is subsequently developed, and the causes of their enforced accumulation and stasis in those localities during a period sufficient for the formation of such tissue.

His and Thomsa³ claim to have demonstrated a very generous distribution of lymphatic channels in the testicle, the liver, and the kidneys, organs in which the cicatricial contraction due to the influence of late syphilis is chiefly found. Especially are the lymphatics claimed to be numerous and ample in the testicle, where injections performed upon dogs have shown that lobular spaces are simply lymph sacs or lacunæ. In point of fact, the seminal lobules are literally inclosed in lymph chambers, and the reticulation of lymph channels not only surrounds but permeates every portion of the testicle and its appendages. The same rich distribution is shown also in the liver and kidneys. Having, then, the material necessary for the formation of cicatricial tissue, and in localities where it is known to develop, the essential condition to produce it is an enforced stasis of cell elements through interference with the lymph circulation of these organs; in short, *obstruction of the lymph channels* at various points.

The possible damage to these channels, — to the walls of lymphatic vessels and sacs and spaces, — through development of fibrous tissue in the active stage of syphilis, has already been explained to you. The coincidence of antecedent syphilis, of the development of this cicatricial tissue in the line of the lymphatic distribution, and apparently in proportion to its richness; the coincidence of the aggregation of purely lymphatic elements as the condition preceding the cicatricial formation (as in the testicle); the coincidence also of the entire absence of any injury to the affected organ except that which results from purely mechanical causes, will, I think, warrant us in claiming, at least as far as syphilitic degeneration of the testicle is concerned, that there is no necessity to invoke the influence of a taint in the blood in order to obtain an explanation of its occurrence. When at a later period we come to consider the treatment of this and allied affections, it will be found that the only agents which are accepted as most efficient, or which are at all efficient in preventing its occurrence, or in arresting its progress, are just and only those which are known to be most potent to prevent, arrest, or dissipate new formations, normal or abnormal, which occur independently of the syphilitic influence.

In support of the views just advanced in regard to the formation and behavior of the gummy and cicatricial deposits in the testicle resulting from syphilis, I

¹ Patholog. Histol., page 399, 1880.

² Rindfleisch, Path. Hist., page 94, section 77.

³ Stricker.

will quote from a recent authority¹ an account and opinion of similar pathological conditions occurring in the liver.

DEVELOPMENT OF THE GUMMA OF SYPHILIS.

"The first phase consists in the proliferation of connective tissue or of an analogous tissue. . . . In syphilitic interstitial hepatitis the proliferation of cells of the connective tissue takes place not only between the hepatic islands, but also in their interior, along the capillaries, and up to their entrance into the central vein. . . . This formation of embryonal tissue takes place either throughout the organ or in limited points. . . . The new tissue, which accumulates in masses, becomes riddled with numerous vessels. Then commences the second stage of the development of gummata. The cells multiply, diminish in size, are compressed against each other, and there are thus produced little nodules or irregular islands, in which the central cells are atrophied and granular (from pressure?), while the peripheral cells are more voluminous and present the character of embryonal cells (because freed from pressure?). . . . Then in regard to "gummatous nodules which have undergone degeneration," page 112, "One might at first sight believe that these groups of fatty granules correspond entirely to the plasmatic cells, but, studying more closely, we see that many belong to spaces, more or less lengthy and sometimes wide, which represent the disposition of the lymph canals in the fibrous tissue, and we are right in concluding that the spaces filled with these groups of fatty granules are lymph vessels stuffed with the fat resulting from the decomposition of the morbid mass. . . . It is by means of the lymph vessels that the products of the decomposition of the nodules are absorbed, when, after yielding to proper treatment or to the processes of nature, the gumma diminishes."²

I shall now call your attention to another variety of lesion, also characteristic of the influence of late syphilis.

CASE XV. This patient's age is fifty years. He has a clear history of syphilis of twenty years ago. His appearance indicates a generally bad condition. Somewhat emaciated, his dusky complexion and his anxious expression, and a previous history of syphilis, would lead us to look for syphilitic degeneration of the liver or kidneys or both. When we find such a condition as his associated with visceral disease due to syphilis, we call it *syphilitic cachexia, innutrition* occurring, not from any virus circulating in the blood, but from functional incapacity of the organs affected, and due to the so-called gummy deposit or infiltration in various stages of its development. This man's health and habits have, by his own account, been bad for several years. He has suffered from no local pain except occasionally in his back, which he is not able to localize sufficiently to indicate any special trouble. Examination by percussion and palpation over the right hypochondrium shows that the liver is diminished in size. I cannot positively make out any irregularity in its form or consistence. Gummy tumors may be present for years in similar cases without creating any marked local or constitutional disturbance, and even subsequent cicatricial contraction may go on to a considerable extent without much constitutional suffering. Again, in a case like this the contraction of the liver may be due to alcoholism. If the

trouble in the liver is in considerable measure due to gummy infiltration or localized deposits, which have not yet undergone the cicatricial change, we may hope for improvement by use of remedies, previously spoken of as appropriate for removal of new formations. If, however, cicatricial tissue has formed, from whatever cause, the probabilities are greatly against any marked improvement.

This patient is presented, however, chiefly to illustrate the behavior of "gummy deposits" in bony structures. He shows us here, on the right parietal protuberance, a swelling or tumor about the size of half a pullet's egg, very dense in structure and resistant to the touch, like other parts of the cranium. Besides this, at the vertex, on removal of the carbolated dressing, you may observe that complete destruction of the scalp has occurred, for the space of a full square inch. The external table of the skull is also gone, as well as the diploe, and as I pass my probe under the overhanging edge of the scalp, I find that the bone is destroyed for a half inch beyond the apparent size of the ulcer; yet, as you see by its rosy, sloping edge, it is healing. About a month since, when this patient first came under observation, the ulcer was at least twice its present size, and presented an abrupt and ragged edge, and the cavity filled with fetid pus. This improvement has apparently resulted from treatment which I will explain to you later.

According to the patient's account, this lesion came almost imperceptibly, as a swelling, without tenderness, about three years ago, and remained unchanged until a few months since, when, after a heavy drinking bout, it began to be sensitive, and finally softened down and discharged a quantity of matter.

We may reasonably infer that this destructive process was preceded by a condition similar to the swelling on the adjacent bone, to which attention was first directed, and that the insensitive bony swelling and the destructive bony lesion are but stages of the same trouble. These inferences are in complete accord with what is known in such cases. It is furthermore shown that, in similar cases, true bony material is exuded or accumulated and organized under the influence of mysterious conditions following syphilis (anywhere from one to fifty or more years), and that such overgrowth may occur at any point in the osseous system, or it may rise up under the periosteum of one of the long bones, as the tibia or the humerus, and appear as a distinct bony tumor—and remain as such, for years, without causing great inconvenience, or it may originate in the substance of the bone, as in the present instance, and after a long quiescence break down into a bony abscess within a few weeks or even days. Examinations of these lesions in every stage have shown that they are made up in the first place of simple collections of germinal material, identical with that forming the gummy tumor of the soft tissues. The cells become organized in some instances into solid bony material, especially when external pressure is slight; in others, where the "gummy material," that is, "*accumulated germinal material*," is deep seated, the pressure causes atrophy of bone, bony loss taking place just as loss of cellular tissue was explained in the tubercular syphilide, *without ulceration*. Again in others the material breaks down from irritation caused by the pressure, and under influences such as lower the resisting powers of the patient, and the newly organized material melts away into pus and the debris of disorganized tissue.

¹ Cornil and Ranvier, American Edition, 1880, page 110.

² Italics are my own.—F. N. O.

It will be seen, then, that in these three modes of action of the gummy deposit in bone, we have nothing to suggest any destructive property or virus *per se*, nothing to militate against the application of the same explanation that was offered to account for the gummy tumor and other forms of gummy deposit in the soft tissues, namely, simple obstruction of the lymphatic vessels, of bones in this case, the results varying from circumstances of location and from condition of the subject. Destruction of the tissues implicated never occurring except from mechanical pressure, either acting as an interference to nutrition directly through pressure, or through pressure upon blood-vessels supplying the part. The fact that the same treatment which has been found successful in treatment of gummy tumors and infiltrations of the soft tissues is equally efficient in lesions of bones, due to late syphilis, is in support of such a view.

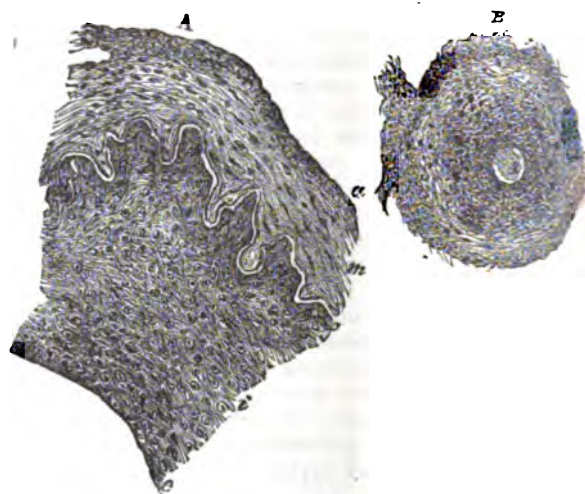
It will be seen that the affections of the so-called tertiary or late stage of syphilis affect various structures, and that their destruction, as far as we have found any explanation for it, has been the result of purely mechanical causes. The cases, however, which have been presented up to this time have not been characterized by extensive losses of substance rapid and involving various tissues often met with. Infiltrations of "gummy material" may indeed be invoked to explain such losses through interferences with the nutrition of parts. Examples of such destruction are seen in Plate 16 on my right, which represents the serpiginous ulcerations characteristic of late syphilis, where the entire thickness of the integument is shown to have been destroyed from knee to ankle. In Plate 17 — representing what are called *rupetic* ulcers, fully as large as a silver dollar, and presenting an appearance as if some foreign body had sloughed out — several smaller ulcers are also seen, near by, covered with thick sienna-colored scabs, which scabs, I may say in passing, apparently the product of the ulcerative process, when examined under the microscope are found to be made up only of disorganized lymphatic elements which do not present any specific feature. And again, Plate 18, which represents the so-called *tertiary syphilitic impetigo*, a superficial ulceration of the skin the size of your two hands, crescentic in shape and covered here and there with a thick, crust-like scab, while along side of it is represented an ulcer which has destroyed the integument and the underlying cellular tissue to a considerable depth. Here, again, at Plate 19, is an ulceration with profound loss of substance at the ankle, and still another, No. 20, which represents loss of the soft and hard palate, and implicates the fauces.

Now I want not only to show you, by these and other examples, that destruction from the influence of syphilis occurs at any point where lymphatic vessels are present, — in other words, at any point to which nutritive material is carried, not only to the skin, the cellular, muscular, bony, and even cartilaginous structures, but to every part of the brain and nervous system, — I want also to say at this point that the behavior of tissues and structures infiltrated with the so-called gummy material of syphilis, in all forms in which it presents a destructive result, shows nothing, either by inoculation or by any physical property, which proves it capable of acting except by the mechanical influence of its presence, by interfering with function and cutting off nutrition through diminishing the calibre of

blood-vessels or possibly effecting entire obliteration of such vessels.

In this connection the statements of Cornil and Ranvier in regard to what is termed *tertiary* degeneration of arteries — certain changes recently described by Huebner as characteristic of syphilis — may be introduced in illustration of the foregoing statements: "These changes have been recently brought prominently before English pathologists by Drs. Greenfield and Barlow and others, and the investigations of the first named of these observers would tend to render it probable that similar changes occur in arteries in other situations. In the cerebral arteries the changes produce opacity and marked thickening of the vessel, with considerable diminution in its calibre. It is this diminution in the lumen of the vessel which is especially characteristic.

"When transverse sections of the vessels are examined microscopically the principal change is seen to be in the inner coat. This coat is considerably thickened by a cellular growth. The growth, which is limited

FIG. 182.¹

Syphilitic Disease of Cerebral Arteries. A, segment of middle cerebral artery, transverse section: *i*, thickened inner coat; *e*, endothelium; *f*, membrana fenestrata; *m*, muscular coat; *a*, adventitia. $\times 200$, reduced $\frac{1}{2}$. B, small artery of pia mater, transverse section, showing thickened inner coat, diminished lumen of vessel, and considerable infiltration of adventitia. The cavity of the vessel is occupied by a clot (? thrombus). $\times 100$, reduced $\frac{1}{2}$.

internally by the endothelium of the vessel (Figure 182, A *e*) and externally by the membrana fenestrata (Figure 182, A *f*), closely resembles ordinary granulation tissue, consisting of numerous small round and spindle-shaped cells. This tissue appears gradually to undergo partial development into an imperfectly fibrillated structure. In addition to this change in the intima, the outer coat is unusually vascular and infiltrated with small cells, and this cellular infiltration usually also invades the muscular layer (Figure 182, A *m*). The result of these changes in the inner coat is to diminish very considerably the lumen of the vessel (Figure 182, B), and the consequent interference with the circulation frequently leads to coagulation of the blood, thrombosis, and cerebral softening."²

Dr. Greenfield's observations, as already stated, tend to show that similar arterial changes occur in other

¹ Cornil and Ranvier, Pathological Histology, American Edition, page 331. Electrotypes through favor of Mr. Henry C. Lea, publisher American Edition.

² Italics my own. — F. N. O.

parts, and that they account for the degeneration of the syphilitic gummata.

Thus it will be seen that the *degeneration of arteries* from syphilitic influences, according to recent eminent authorities, consists in an antecedent development and growth of new fibrous tissue *at the points of degeneration*, — fibrous tissue not distinguishable, either in its cell elements or the fibrillæ developed from such elements, from normal productions. There can scarcely be a question that, occurring as a recognized sequence of the same trouble and in the same period which produced in the liver a similar cell development, resulting in cicatricial contractions of that organ, the fibrous tissue thus developed in the coats of the arteries had a similar origin. It is true that the lymphatic channels in the coats of arteries have not yet been practically demonstrated, but if, as claimed, the office of the lymphatic system is to return from the tissues nutritive material, tissue-fluid, and white blood cells, exuded by the blood-vessels in excess of the necessities of growth and nutrition, then we must admit the existence of lymphatic channels *in every tissue*. It is scarcely ten years since their existence in bones was denied by all histological authorities, but since then Ludwig and Sweigger-Seidel have demonstrated their presence in cartilage, and Thin has furnished a chart of lymphatics of the cornea. It may be now claimed, I think, that the evidences which have been adduced in proof of the important part played by the lymphatic system in the early and late periods of syphilis will warrant further investigations into the histology and pathology of that system. With newer discoveries we shall, I believe, find the demonstration of causes of syphilitic trouble, in regard to which at present we are obliged to depend for solution upon analogy, treatment, and the lack of any other way of accounting for them. Syphilitic disease of the brain, for instance, is now usually considered as resulting from the deposit of gummy material in its substance, and so it may be proven by plenty of post-mortem evidence; but softening of the brain, independently of the recognized presence of gummata in that organ, would not suggest a syphilitic cause. By analogy, however, the disease — first the gummous, then the fibrous deposit — might be in the coats of an artery supplying a large tract of brain substance, interference with the calibre of which and consequent innutrition of the tissues it was designed to nourish would eventuate in a case of as extensive cerebral *ramollissement* as could be met from any other cause. In the same way loss of every kind of tissue might be reasonably accounted for whenever gummy deposits were located in the coats of vessels, thus adding a destructive agent of the most positive character and wide-spread influence to the simple processes of atrophy from mechanical pressure and localized strangulation of vessels of nutrition, resulting in more or less rapid local necrosis of tissue.

The measures for relief and cure of syphilis logically suggested by the foregoing views of its nature and its behavior in its various stages and phases will next be considered.

— The news of the death of Professor Hebra, of Vienna, on the 5th inst., has been communicated to us. The announcement comes from the family, but we have heard no details of the circumstances under which the celebrated clinical teacher and practitioner passed away.

Original Articles.

BORACIC ACID IN SURGERY.

BY WM. WARREN GREENE, M. D.,

Professor of Surgery and Clinical Surgery in the Medical School of Maine; Surgeon to the Maine General Hospital, etc.

FOR several years past I have used the boracic acid more or less in my surgical practice, but it was not until a little over three years ago that I determined to give it a thorough trial. I first used it in the treatment of certain obstinate, unhealthy ulcers, and it was from observation of its action in this class of cases that I was led to test its qualities more extensively. For certain reasons I have preferred to confine its exhibition to private practice exclusively, not having, up to date, used it probably a dozen times altogether in the hospital.

This trial has been sufficiently extensive and thorough to warrant somewhat definite conclusions as to the merits of the drug, and, convinced as I am that in it we have a remedial agent of much greater power and wider range of applicability than members of our profession are aware, I desire to put in concise form a statement of my clinical experience with it. Indeed, very little is generally known of this article.

True, Mr. Lister has used it in the treatment of "foul sores," and lint steeped in a hot solution of boracic acid forms a part of his antiseptic dressing. Mr. Watson has testified to its value in his East India practice, and Dr. Hussmann, of Germany, and a few others have given evidence in its favor, while a second and careful reading of Poli's published account of his investigations from a chemical standpoint more especially prepossessed me in its favor. Nevertheless, it is not even named in any of the older text-books, and is very briefly noticed in few of the more modern ones, while the little that has been written of it in periodical literature has not attracted general or marked attention. So that I am warranted in saying of the large majority of medical men, that they have no familiar or practical acquaintance with this important therapeutic agent.

I shall not occupy time or space with a tedious detail of individual cases, but content myself with a brief statement of facts, and my own conclusions therefrom.

TOPICAL USE.

Although, as will be seen further on, I have administered the acid internally to considerable extent, yet I have for the most part used it as a topical remedy, and it is to the results of its local application that I especially invite the careful attention of my professional brethren.

The first instances in which I employed boracic acid as a dressing were *old, indolent ulcers following severe burns*; and I wish to call particular attention to three of these cases, each one of which presented typical features.

One had a glazed, dark, tender surface, with considerable induration of base and edges, a scant, watery discharge, with entire absence of granulations. The surface of the second sore was a mass of large, flabby granulations, bathed in unhealthy puriform fluid; while the third ulcer was exceedingly tender and painful, covered with foul flecks and shreds of aplastic inflammatory products, and discharged freely a thin, ichorous, fœtid matter, which was often mingled with

dark blood. Having stated that the ulcers were old, I hardly need to say that the usual methods of treatment in such cases had been previously employed, and had failed.

Under the action of the acid marked improvement took place with a promptitude not to be explained as mere coincidence. The glazed surface became less irritable, and within a week was covered with an abundance of healthy granulations. In the other sores, unhealthy discharge gave place to laudable pus, granulations became normal, and in each case the process of cicatrization was established.

Since this first trial I have treated a large number and a great variety of sores, both simple and specific in origin, with the acid, and with quite uniform results. These results have been an immediate correction of unpleasant odor, relief of pain or itching sensations, and an improvement in the granulation process. An important fact in this connection is that in all the cases treated, either other plans of treatment had been fairly tried, or, as in a few cases treated by the acid applications from the first, were observed in comparison with similar ulcers which were being managed by some one of the time-honored methods.

Under the influence of this remedy the tissues become better fitted for the reception and nourishing of skin-grafts, while those that have taken but indifferent hold, and give doubtful promise, brighten and quicken under the vivifying contact of boracic acid. The mode of its application will be given further on.

In several fresh, open wounds of large area, I have followed the primary dressing of cotton wool with the boracic-acid ointment, and with most satisfactory results. For example, two weeks ago I removed a large scirrhus breast, to which the infected, leathery skin so closely adhered as to require removal with it. Hence the surface of the resultant open wound was a little more than equal to the base of the mammary gland. Under the boracic acid dressing the sore is perfectly healthy, and already new skin is rapidly pushing in from the edges.

In simple catarrhal inflammations of mucous surfaces, as well as in the ulcerative forms of disease associated with fetid, muco-purulent secretion, the effect of boracic acid solutions has been most gratifying. In ozæna and otorrhœa I have proved its quality as a prompt deodorizer and healthful alterative, and as a lotion for washing out the bladder in chronic cystitis with muco-purulent and offensive urine, I know of nothing better. I have employed it as an injection in twenty-eight cases of gonorrhœa, and I never had similar cases do better under any other treatment. I have been equally pleased with its effect in vaginitis and inflammation of the external genitals of the female.

I have had but limited experience with it in genuine diphtheria, but in the few cases where I relied upon it as the local remedy, I have been abundantly satisfied; and in diphtheroid and aphthous inflammations of the fauces, I have convincingly tested its action and demonstrated its value.

In the form of a lotion or ointment it has proved efficient in erythema and facial erysipelas; and in a variety of skin diseases, especially eczema and the various forms of tinea, the use of the acid has been uniformly curative or markedly palliative and beneficial.

As the writing of this article recalls a large number of individual cases, I am strongly tempted to report many of the more striking ones, but I forbear. One

case, however, still under treatment, so forcibly illustrates the value of this remedy from a comparative standpoint, that I feel sure a brief notice of it will be profitable.

About the first of last June a lady came under my professional care who, eight months before, had sustained severe burns upon both upper extremities, with several patches upon the chest. Both arms were deeply burned over three fourths of their surface, as was also the fore-arm of the right side. The left fore-arm was badly burned in its upper third, the lower portion escaping. During all these months she had been in charge of one of our most skillful physicians, who, to my personal knowledge, had exhausted the list of ordinary remedies in such cases, both lotions and ointments. Acetate of lead, sulphurous acid, simple cerate, cocoa butter, bismuth and glycerine, zinc ointment, etc., had been applied without avail. The failure to heal was finally attributed, as I understand, to pregnancy, and the hope entertained that after labor the process of cicatrization would begin. On the contrary, after delivery, which was natural and prompt, she failed faster than before, and one month subsequent to the birth of her child I found her in a most pitiable and unpromising condition. The ulcerated surfaces were terribly painful and irritable, and covered with a very offensive aplastic matter, which was abundantly secreted, with dark blood oozing freely from various points, and an entire absence of proper granulations. The slight attempts at new skin-formation reported to have occurred at times during the past winter had left no trace, but instead, all along the edges were unhealthy sores, secreting foul ichorous fluid. In short, the surfaces were as unpromising in appearance as they could well be after so long continued and fruitless trial of remedies. Her general condition was correspondingly bad. She had well pronounced hectic fever, loathed all food, and had a troublesome cough, which, in view of family tendencies towards phthisis, gave me unpleasant apprehensions. Indolent pustulations here and there over the body, sore eyes and lips, wandering pains, and a constant elevation of temperature told of serious blood poisoning. Scores of grafts had been inserted, but all failed.

The sores were kept constantly soaked in a saturated watery solution of boracic acid under oiled silk, until in three days the surfaces were clean. I then substituted the ointment containing a drachm of the acid to the ounce, which has constituted the dressing ever since. The change has been, to speak moderately, most remarkable. To be sure, I put her simultaneously upon a tonic and supporting plan of general treatment, but the local changes were too great and sudden to allow the faintest suspicion even that they were not due to the local treatment. So marked was the improvement in every way, that even the attendants, *from the first*, noticed it *from day to day*, and exclaimed with astonishment. To-day the surfaces are everywhere healthy, secreting a moderate amount of laudable pus. All pain is gone, and both marginal and central cicatrices are rapidly forming. Already, in some places, patches of new skin measure by inches, and only eight weeks have elapsed since the acid treatment began.

The hectic is entirely gone, temperature normal, appetite excellent, cough has disappeared, as have the unhealthy mucous and tegumentary inflammations and wandering pains, and she is rapidly gaining strength.

One most distressing symptom was an almost continual "throbbing" in the arms, which at last extended all over the body, and caused her great suffering. This long ago disappeared.

But after all, this statement must, in all fairness, be accompanied by another, which only shows how careful we must be in passing judgment on a new therapeutic agent or plan, and how necessary it is to consider all the circumstances in each case.

For five or six months previous to my assuming the care of her, and in order to prevent the contraction that was dreaded as a probable contingent of the healing process, she had been in the habit of daily exercise of the limbs by forcible flexion and extension, pulling on ropes, etc. This performance, to use her own language, "gave perfect torture at the time and increased pain and soreness, often with bleeding, for hours afterward." But being fully convinced of its necessity, and possessing wonderful courage, she persisted in the practice in spite of the suffering. Now, one of the first things I did was to put the arms at rest, and to this end I constructed baskets or cradles of wire webbing nicely padded with oakum, in which the limbs find even support, and these, being suspended by elastic cords and pulleys, give grateful and perfect rest to the suffering members. I need not say that in estimating the treatment as a whole, this element of even, elastic support, and absolute rest, must be credited for whatever it is worth. Making, however, allowance for all possible influence from this source, the evidence is most convincing to my own mind that boracic acid has been the principal factor in the curative process.

INTERNAL ADMINISTRATION.

My experience with this drug as an internal remedy has been comparatively limited. I have, however, sufficient proof of its value to warrant reporting my observations.

Let me state in this connection what I think is a very important fact. In all the trials of boracic acid upon which this paper is based, I have used it, whether internally or topically, *alone*. So that, aside from the vehicles of its administration, my conclusions are not embarrassed by the possible concomitant action of other remedies.

In a few cases of diphtheria and in many instances of tonsillitis and diphtheroid throat affections, that is, in cases characterized by pain, swelling, and dark color of the fauces, with fetid breath and adynamic fever, yet lacking the distinguishing sub-epithelial exudate, the acid treatment has proved very satisfactory.

In chronic dyspepsia with fetid eructations decided improvement has immediately followed its exhibition.

In two cases of chronic cystitis, instead of using it topically in washing out the organ, and with no topical treatment, I have given it by the mouth with undoubted good effect. In cases of inflamed or irritable prostate its free internal administration has given results corresponding with those obtained in the management of mucous inflammation.

In septicæmia I have sufficient reason to give it great confidence.

In pyæmia and rheumatism, I have not improved opportunities for trying it sufficiently to warrant a decided opinion, but only to justify me in asking for it a trial at the hands of my professional brethren.

From its beneficial action upon syphilitic ulcers

and eruptions, I can but hope that it may prove a valuable remedy in general syphilis. But I have not as yet put it fairly on trial in this disease.

GENERAL REMARKS.

Boracic or boric acid is a compound of boron and oxygen, and is obtained principally by decomposing the borate of soda or borax with sulphuric acid, which, having a stronger affinity for the soda, unites with it, forming the sulphate of soda, displacing the boracic acid. The supply is therefore abundant and its manufacture cheap, hence it is sold at wholesale for from forty to fifty cents per pound. It occurs in white scaly crystals, which, in their glistening appearance and peculiar saponaceous feel under trituration, resemble somewhat those of benzoic acid. It is odorless and almost tasteless and gives colorless solutions. It is peculiar as to solubility. Cold water dissolves only nineteen grains to the fluid ounce, and hot water dissolves eighty grains to the ounce, but on cooling precipitates all but twenty-three grains, while alcohol holds only a fraction more than hot water. Hot glycerine, however, dissolves a little more than three drachms to the fluid ounce, and *holds it perfectly on cooling*.

I am aware that a certain most worthy author makes the following statement: "It"—boracic acid—"is soluble in twenty-six parts of cold and in three parts of warm water, and is freely soluble in alcohol." I do not understand this remarkable and certainly mistaken statement. For my own statements as to solubility I am indebted to my friend, Mr. William J. Bragdon, an excellent young pharmacist of this city, who has kindly interested himself in the matter and whose experiments I have repeatedly witnessed; and although the results are not absolutely accurate, as such precision was not essential for my purpose, they are to my personal knowledge approximately correct, and sufficiently so for practical use. Vaseline, cold or hot, does not affect the acid, but at high temperature unites readily with the saturated glycerite, and the union remains perfect on cooling without any precipitation.

As to doses for internal administration I do not know the limit. It is a curious drug. Locally, although so decided an antiseptic, and powerfully alterative, yet a saturated watery solution does not in the least irritate a fresh cut surface. Nor does the same solution, which I have said is almost tasteless, having only the slightest saline flavor with a suspicion of acidity, in any way disturb the stomach. I have repeatedly given four fluid ounces of saturated solution as a dose, which contain about eighty grains of the acid, and in several instances patients have taken much more. I have never known any ill effect from it in any way. My ordinary dose for an adult is from twenty to thirty grains, but when I desire prompt saturation of the system I give from one to two drachms every four hours. In internal exhibition I have used it only in aqueous solution or in powder,—given usually in cachets,—directing the patient to drink water freely immediately afterward. There could be no objection to giving the glycerine solution in certain cases, but it is to be borne in mind, that the addition of water, and of course the same would happen in the stomach if water was taken subsequently, will precipitate the acid.

It is of its local use that I speak most confidently. As a topical remedy I have applied it in form of solution,—I have preferred to confine myself to the watery and glycerine solutions, as it is difficult to differentiate

the action of the alcohol from that of the acid, — both aqueous and glycerinous, and in ointment. For continued application the latter is best. My plan is in a general way the following: In foul sores, simple or specific, whether ulcers or eczematous or ecthymatous surfaces, I keep the parts soaked in the aqueous solution, or, if very foul and unhealthy, in the saturated glycerite of boracic acid, for a few days, until the surfaces become clean and free from foul odor. I then dress with the boracic acid ointment. In very indolent sores the occasional free brushing or sopping with the glycerole as the ointment is renewed is advantageous.

In the treatment of erythematous or erysipelatous inflammations the application may be by wet compresses under protective dressing or by the ointment. In gonorrhœa and cystitis I have used the saturated watery solution, except in a few cases of obstinate urethritis in which I employed the acid glycerole with excellent effect. In diphtheria and diphtheroid affections I have generally used the full strength of the glycerine solution.

In preparing the ointment I have used vaseline as the basis, adding a little wax or spermaceti, or both, if a firmer mixture is desirable. As I have before said, the vaseline does not dissolve it, but properly prepared the acid is so finely levigated and intimately and evenly mixed that its thorough contact with any surface is insured. I have, however, lately made the ointment directly from saturated glycerite. Cold vaseline and glycerine will not mix, but at a high heat it unites perfectly with the glycerole, and forms a permanent union when cold.

For example, take saturated glycerole of boracic acid two parts, spermaceti and white wax each one part, vaseline six parts. Melt vaseline, wax, and spermaceti together, and add the glycerole slowly with trituration while cooling. This makes a dressing of ordinary strength, and is a *most beautiful pharmaceutical preparation*. Of course the strength may be increased indefinitely. Under such dressing, which never adheres to the raw surface, granulations prosper, skin grafts thrive, bad odors cease, and pain and irritation rapidly diminish.

I want to say a word here, parenthetically, about vaseline.

I have said that I have always employed it in making boracic-acid ointment. I will also say that for a long time I have used it altogether as the base of all unguents whatever, merely adding a little white wax or spermaceti if I desired more firmness. I doubt if physicians generally are aware of the excellence of this wonderful product of petroleum distillation. Odorless, perfectly bland, in itself a most grateful and wholesome protective dressing, it is stable under all ordinary temperatures, is not affected by morbid secretions or by chemicals, and never becomes rancid or changed in density by age or exposure. With these qualities, and without a single feature that is objectionable, it can but commend itself at once as a substitute for all fats or oils in pharmacy. And the surgeon cannot realize the comparative advantage in comfort and neatness, both to himself and to his patient, until he tries it. If in haste and the hands are covered with it, a thorough wiping with a dry towel will make them practically clean for work in an emergency, and freedom from any odor is not a slight point in its favor.

I have for dressing purposes every ointment of the pharmacopœia in my office, all made with it, and I feel

sure that if any surgeon is led by this statement to make trial of it as a substitute for grease he will thank me for this brief testimony for vaseline.

It may be truly said that the ointments of vaseline, wax, and spermaceti are of themselves good and oftentimes sufficient dressings in the management of ulcerated and inflamed surfaces. In all my testing of the qualities of boracic acid I have not for a moment forgotten this fact, nor have I overlooked the action of glycerine. It is important to remember that glycerine is one of those topical remedies with regard to which there are many idiosyncrasies, and that to many sores where it would seem indicated it is a most powerful and distressing irritant. Not only is this true, but in the same case its action is so modified by otherwise unappreciable changes in the disease that careful watching alone will enable the surgeon to use it at the right time and in the right place. What I have said of the action of the acid is from careful observation with all these facts constantly in mind.

I believe I have not spoken extravagantly. If in one or two instances my language is emphatic, it is because the facts warrant it. I do not pretend to anything like a full knowledge of the indications for its use or of its therapeutic power, especially as an internal remedy. As a topical application I have yet much to learn as to its power, range of adaptation, and the desirable degrees of strength and modes of combination in different cases and under different circumstances. But I know already that it is a medicine deserving high rank in the materia medica as a disinfectant, parasiticide, anti-ferment (a saturated (watery) solution surely destroys all germs), and a most excellent alterative to unhealthy surfaces, correcting unhealthy processes of inflammation and ulceration, and promoting the exudation and organization of sound lymph. And I sincerely trust that my professional brethren throughout the world will so thoroughly test its virtues as to give it its definite and deserved place in the pharmacopœia. Fortunately its cheapness, its freedom from all unpleasant taste or odor, its stability, and its lack of any irritating or poisonous quality, at least within the limits of ordinary doses, render such trial very easy and safe.

PORTLAND, July 26, 1880.

WHAT CONSTITUTES THE "DEAD BODY OF A PERSON" ?¹

BY MEDICAL EXAMINER A. F. HOLT, M. D.

SOME time last summer there floated ashore, a few miles down the coast, a human leg. The attention of one of the medical examiners for the county in which this occurred was called to it, and he viewed it. The question at once arose, Could this leg be considered the dead body of a person? Out of this grew the question, What does the term "dead body of a person," as it occurs in the new law, mean?

When this question was first put to me, I was inclined to answer much as I heard a physician in court, a few days ago. This physician, being asked, What is spinal irritation? replied sharply and promptly, Irritation of the spine, sir. So I was inclined to say that the dead body of a person was the body of a person

¹ Read at the February meeting of the Massachusetts Medical-Legal Society, 1880.

that had ceased to live. This definition would no doubt cover its common meaning. The law seems to give it a somewhat wider one. What that meaning may be, I have tried to determine in this paper.

The question seems to be rather a novel one. Of the many medico-legal works I have consulted, only one mentions the subject. Caspar, in his great work on legal medicine, asks the question, What is a dead body? in especial relation to the Prussian law regulating burials; and gives a single page to its discussion.

The first question relating to this subject, as I have put it, — that of mutilated remains, — notwithstanding it is a discretionary one, does not seem to me to admit of much discussion. The second — that relating to fetuses in the early stages of development — is, as I view it, a technical one, and answered by the law. The questions this matter raises are more legal than medical. In deciding such I have relied on members of the legal profession.

The statute of 1877, chapter 200, section 8, abolishing the office of coroner, and creating that of medical examiner, provides that "whenever a medical examiner has notice that there has been found, or is lying within his county, the dead body of a person that is supposed to have come to its death by violence, he shall forthwith repair to the place where such body lies, and take charge of the same." Other parts of this and the succeeding sections of this act give clear and definite directions as to what his duties shall be in all cases that are likely to arise in the discharge of such official duties. But the law does not designate, nor anywhere indicate, what he shall consider to constitute the dead body of a person. This omission, whether intentional or otherwise, leaves the matter wholly to the determination of the medical examiner. This being so, the first question that will present itself in all cases where he is called officially will be, Is this "the dead body of a person," within the meaning of the law? If he determines that it is such a body, then he can proceed to make such examination as the case may seem to him to require. But if he decides that it is not such a body, then, as the law under which he is acting specifies only that it is with dead bodies he shall have to do, his official connection with it, at least, ceases.

In a large majority of cases this question will present no difficulties. The body will be mature; it will be whole, or nearly so; and its general appearance and condition will be such that the examiner can determine at once and certainly that it is the dead body of a person. The only conditions under which this question may become difficult, or give rise to any difference of opinion, are perhaps two: first, where mutilated remains or fragments of a body are brought to the notice of the examiner; second, where he is called to view the body of a fetus in the early stage of its development.

There is possibly one other condition of the body where the question, Is this a dead body? may present itself, and that is, where death is simulated in such a way as to make it difficult to determine whether the body is dead or quick. Popular opinion would have us believe that this is a very common occurrence. The story of the burial of a live person is one of the horrors that occasionally goes the round of the public press. After looking up this matter, I am well satisfied that cases of simulated death that would deceive the expert are the rarest of occurrences, even if they occur at all. Ogston, in his *Lectures on Medical Juris-*

prudence, says: "It must be admitted that most if not all of the cases that have hitherto been selected as illustrative of the reality of such occurrences, are not such as will endure any close scrutiny."¹ When we consider the vast number of deaths that have been observed, and the small number of cases where any difficulty has been found in determining whether death was present or not, we must conclude that such a case is little likely to come to us, in our official capacity. If such a case should occur, the medical examiner has at his command a sure and certain means of deciding it. The law says he shall take charge of the body. It would only be necessary to retain it under observation, and in any such temperature as humanity would dictate that it should be kept if there was a suspicion that life was present, it must soon show signs that would be unmistakable, if it were really dead.

To come then to the first question. Are all mutilated remains found under suspicion of violence, and brought to the notice of the medical examiner, to be considered as the dead body of a person? The medical examiner, being a creature of statute law, must in the performance of his official functions be governed by the law that has created him and defined his duties. But in this case, as there is no specific rule for his guidance, it is evident he has some discretionary power in the matter, and it is expected that he will follow the dictates of reason. If, for example, he is called upon to view a human head, severed from the body, and a careful examination fails to reveal the whereabouts of the remainder of the body, it would clearly be his duty to take action in such a case. He has positive evidence in his possession of the death of a person, and this head alone may furnish the most conclusive proof that the death was the result of criminal violence. It may be all that remains of the dead body of such person, and a proper examination of it will accomplish the object of the law. The same may be said of any other vital part.

What is to be the action of the medical examiner when small parts of a body are brought to his notice, such parts, perhaps, as might not necessarily destroy life in their removal from the body? This question, being a part of the one just discussed, is like it, of course, a discretionary one, and to be answered according to the purposes of the law. The great object of a medico-legal examination is to assist in the detection of crime, and the medical man is selected by the law as the most competent person to determine what evidence the dead body presents of a crime having been committed. His duties are by a careful and painstaking examination to determine, as well as may be, the cause of death, and thereby whether crime has been committed or not. If there has been, it is his duty to carefully preserve such evidence of the crime as the body may furnish. He is also to note all marks or peculiarities that may assist in identification. There can be no doubt that the law intended he should do this in all cases, no matter whether the body is whole, or badly mutilated, or whether only fragments of it can be found. If it can furnish evidence that may be of service in the detection of crime, it is clearly his duty to take cognizance of it.

This being the duty and object of his office, the practical question would seem to be, Can such small parts of human remains furnish such evidence as shall lead, or assist in leading, to the detection of a crime

¹ *Lectures on Medical Jurisprudence*, page 361.

committed on the body of which such remains were a part; or may they be of assistance in leading to identification? It appears from the following cases that very small parts of a body may furnish evidence of a positive character. Ogston, in his *Lectures on Medical Jurisprudence*, relates the following:¹ On one of the London bridges were found in a basket parts of a human body, which the utmost activity of the police failed to identify, while no clew was obtained to the party or parties who exposed them, the greatest care having been taken to destroy all traces of their identity. But here, though the head was wanting, as well as the greater part of the spine, the hands and feet, portions of the left side of the chest, and the whole of the viscera of the chest, abdomen, and pelvis, and most of the muscles, Dr. Taylor clearly made out the sex, from the bones and a portion of the corpus cavernosum of one side left attached to the ischium; as also the probable age of the person, his height, the color of his skin and hair (these last from fragments of skin left on the wrist and one knee), and the date of his death approximately. He also showed that the mutilation must have taken place while cadaveric rigidity continued in the body, that is, from eighteen to twenty-four hours after death; that the individual had received a wound in the left side of the chest, over the seat of the heart, while alive or only recently dead; that after death the limbs had been in the distorted state usual in cases of violent death; and that the muscles had been exposed to boiling water, and afterwards salted.

In another case the trunk of a woman was discovered in a sack, the head and legs being missing. The person who examined this mutilated body could find nothing to serve for identification but a malformation of the uterus, the mark of a ring on one finger, and the horny cuticle of one who had been engaged in household work. The bloodless state of the body, however, pointed to the mutilation having been effected before the corpse had cooled. The head, when afterwards found at a different place, exhibited the profile peculiar to the low order of Irish. The lower extremities, when discovered at a still later period, exhibited as a sole peculiarity a dyeing of the skin, as from the wearing of black stockings. The sections of the bones of the thighs and neck, when now compared, were found to exactly correspond. This examination assisted the detection of the murderer, when subsequently arrested on suspicion.

In the famous case, with which most of us are familiar, of the *Commonwealth v. Webster*, for the murder of Dr. Parkman, the remains were found in a badly mutilated condition. In the vault of the privy connected with Professor Webster's laboratory, at the medical college in Boston, were found a pelvis; the right thigh from the hip to the knee; the left leg from the knee to the ankle; and with them were found certain towels with the initials of the prisoner, and similar to those used by him in his laboratory. On the same and following day were also found in the furnace of the laboratory, fused in with the slag and cinders, a great number of bones, and certain blocks of mineral teeth, and certain quantities of gold which had melted. There was also found in one corner of the laboratory a tea chest containing, imbedded in a quantity of tan, a thorax, or entire trunk of a human body, the left thigh, from the hip to the knee. There were missing from this human body, when placed in apposition, the head,

arms, hands, both feet, and the right leg from the knee to the ankle. As is well known, Professor Jeffries Wyman and other scientists, after a careful and painstaking examination of these remains, determined that these were parts of the body of Dr. Parkman. The strong points in the identification were perhaps some peculiarities in the general form, the muscular development of the legs, an unusual quantity of hair upon the back, and the blocks of teeth, which, curiously enough, were not a part of the body proper.

Many other cases could be cited, where the identification was made out from only small fragments of bodies. A leg or arm may answer some very important questions of this kind. For example: What is its general character? Is it that of a child or an adult? Did it belong to the body of a male or female? What is the color of the skin? If an arm, is the hand soft and white, or is the skin tanned and horny? Is the arm fat or lean? What is its muscular development? Are certain muscles developed more than others? What is the appearance of the end that was attached to the body? Is it a smooth cut, or is it rough and ragged? Are there any wounds on the limb, and if so, what are their appearance? Were they made before or after death?

These, and many other questions, that the condition of the limb might suggest, would be answered by a proper examination. Matters that might be of the greatest importance in proving identity, and in sustaining a criminal action, would be settled.

It is in just these cases of extreme mutilation, that the law has made its greatest demands on medical science; and it is in the investigation of some of these, that our science has won some of its greatest triumphs.

It seems to me from these considerations that it is clearly the duty of the medical examiner to take action in any and all cases of mutilated remains, where there is a suspicion of violence, no matter how fragmentary they may be. Any other conclusion must make the law a failure in many cases that may arise. It may be urged, in opposition to such a conclusion, that the medical examiner should act in accordance with the letter of the law, and if such a course did not accomplish its object in all cases to hold the law itself responsible. But the application of all laws is left partly to the dictates of reason, for only in this way can they be made applicable to all cases where it was intended they should apply. In the matter under consideration, for example, it would not probably be practicable to specify what parts of a human body should be held to constitute the dead body of a person and what not, in such a way as to cover all cases that might arise. And so there is no doubt of the wisdom of the law in leaving it, as it does, to the reasonable discretion of the medical examiner, and making him responsible for its proper interpretation.

The only other objection that can be made to considering all remains the dead body of a person for the purposes of the law is that of expense, an objection that can have no weight where such an important consideration is concerned as the protection of society.

Is the dead body of a fetus before it is viable the dead body of a person within the meaning of the law? In answering this question in its usual meaning, it must be said there can be no doubt that a fetus at any stage of its existence is a human being, and if dead it is a dead human being. The law fully recognizes this in respecting its rights at every period of gestation;

¹ Page 71.

for it appears by the legal authorities that it may at any stage be appointed executor, may take as a legatee or under a marriage settlement, or may obtain an injunction to stay waste.

Notwithstanding the law so fully admits a *fœtus* to be a person in every stage of its existence, for certain wise and practical purposes it contradicts this. Bouvier, in his *Law Dictionary*, says:¹ "A dead-born child is to be considered as if it had never been conceived or born; in other words, it is presumed it never had life, it being a maxim of the common law that *mortuus exitus non est exitus*. This is also the doctrine of the civil law: not to be born and to be born dead are equivalent." Russell on Crimes says:² "Questions of considerable nicety sometimes arise on trials for infanticide as to whether the death took place after the child was actually born or whilst it was in the process of being born, and although the law be clear that a child must be actually born to be the subject of murder, perhaps it is not clearly settled what constitutes actual birth for this purpose. Where, on an indictment alleging that the prisoner was delivered of a child, and that she afterwards strangled it, it appeared that the child had breathed, but the medical men could not say whether during the birth or afterwards, Littledale, J., told the jury the being born must mean that the whole body is brought into the world, and it is not sufficient that the child respires in the progress of the birth."

So of an indictment containing a count for murder by stabbing before the child was completely born, and a statement that it was born and then died of the stab, Parke, J., said: "The child might breathe before it was born, but its having breathed is not sufficiently life to make the killing of the child murder; there must have been an independent circulation in the child, or the child cannot be considered as alive for this purpose."

Where the prisoner was indicted for the murder of a child by cutting off its head, and a surgeon stated that the child had breathed, Colman, J., said: "In order to justify a conviction for murder you must be satisfied that the entire child was born in a living state. The fact of its having breathed is not a decisive proof that it was born alive; it may have breathed, and yet died before birth. But if a child be actually wholly produced alive it is not necessary that it should have breathed to make it the subject of murder."

Caspar, in relation to the Prussian law regulating burials, says:³ "The royal ober-tribunal has in one case pronounced the following judgment: The meaning of the expression 'dead body' can only be determined with relation to the practical purposes of the law and the ordinary acceptance of the term, and therefore the viability of the child must in every case be ascertained before the term 'dead body' can be applied to it. And in a second case it has decided that a *fœtus* born at the fourth or fifth month, and proved to be unviable, cannot be regarded either according to ecclesiastical usage or civil law as a dead body to which the directions and regulations respecting burial are applicable."

Greenleaf, the eminent American author on the law of evidence, says⁴ that "to support an indictment for infanticide it must be clearly proved that the child was

wholly born, and born alive, having an independent circulation⁵ and existence. Its having breathed is not enough to make the killing amount to murder, as it might have breathed before it was entirely born. Nor is it essential that it should have breathed at the time it was killed, as many children are born alive and do not breathe for some time afterward." It also appears, from the decisions of the courts of the Commonwealth, that "if a child is born dead it cannot be regarded as having been the subject of violence, even though it were destroyed by human agency, no matter at what age."

It would clearly seem from this that the law, evidently for the purpose of limiting the time at which a murder can be committed to a period after birth, does not recognize a *fœtus* which has not sustained an existence of its own as a person, nor when dead as the dead body of a person. Neither can it be the subject of violence, and with such a class of beings the medical examiner has nothing to do. The very object of his office is to determine what evidence of violence the body presents, and a body that is not capable of receiving violence can in no way be the object of his official examination.

In a case of criminal abortion, even if the *fœtus*, from some injury, furnishes strong proof of the crime, he can have no connection with it as medical examiner. The authorities may summon him to determine what evidence the *fœtus* presents of the crime of abortion having been committed, but not in his official capacity. If a woman dies as the result of a criminal abortion, then he can take notice of the *fœtus* as evidence pointing to violence done on her body, the same as he would of the placenta or condition of the uterus, but in no other way.

He must, however, be able to determine whether a *fœtus* brought to his official notice belongs to this class or not, and if its size and general development is such that he cannot decide at once whether it has lived or not, it is clearly his duty to consider it the dead body of a person until proved to be otherwise. This makes it of practical importance to determine at what period of life a *fœtus* may support an independent existence. Some of the older authors say that cases have occurred where the child has lived, though born as early as the fifth month, but such cases are not well authenticated. The better opinion now seems to be that a child cannot live if born before the sixth month, and to enable it to sustain continued life it must have arrived at a still later period of gestation. As the law only requires that it shall support life for an instant to make it a person, it is only possible to fix the time at which this may occur approximately. As the medical examiner

⁵ It does not seem to be clear just what is meant here by the term "having an independent circulation." If a *fœtus* is born alive and does not breathe, and the attachments of the placenta are not disturbed, its relation to the mother, as far as the circulation is concerned, is the same as it was before birth, and it may live in this way for some time. It has an independent circulation, as it has had for some months in the uterus, and nothing more; for the blood does not seek new channels until the child has breathed, or soon after. It occasionally occurs, however, that there is a short time between the cessation of pulsation in the cord and the commencement of breathing, when its fetal circulation is all it has, but this cannot support life for any length of time, and I hardly think the expression refers to this. The more probable explanation is that this term has been handed down from a time when there was no definite knowledge as to just what takes place when the *fœtus* assumes an independent existence. As the only positive evidence that the child has lived separate from the mother that can be obtained from the body is that brought about by the breathing, the whole matter practically turns upon the point whether it has breathed or not.

¹ Page 432.

² Russell on Crimes, page 485.

³ Forensic Medicine, vol. i. p. 4.

⁴ Greenleaf on Evidence, eighth edition, vol. iii. sect. 161.

would surely neglect his duty if he should fail to make an examination in the case of a foetus brought to his notice that had come to its death by violence, it would perhaps only be safe to conclude that all foetuses born in the first half of pregnancy cannot live for any period, and the body of such an one cannot be considered the dead body of a person within the meaning of the law.

In conclusion, then, from the above considerations it seems to me that the term "dead body of a person," as it occurs in the examiner law, may mean any part or parts of a human body that is supposed to have come to its death by violence.

RECENT PROGRESS IN THE PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

BY JAMES J. PUTNAM, M. D.

NERVE STRETCHING AS A THERAPEUTIC MEASURE.

THE operation of nerve stretching has now gained for itself such a well-recognized place in the therapeutics of nerve disease, that a few words supplementary to the brief statements made in former reports¹ will not be out of place. In the last report reference was made to a case of *facial spasm* (tic convulsif) — so intractable to other remedies — which Baum had treated successfully by stretching the facial nerve. Since then three other cases of a like kind have been reported by Schüssler, Eulenburg, and the reporter. In all, the method of operating was similar. The nerve is found deep down under the mastoid process, and covered by the extremity of the parotid, which has to be dissected up, and drawn somewhat forwards. Baum's procedure was to seize the nerve with a pair of artery forceps, and pull it with some force, though he lays as much stress on the importance of the pinching as of the stretching, adopting, in that respect, the older view of Verneuil.

Schüssler speaks of raising the nerve on a hook, and giving it a series of pulls, each stronger than the last, until all signs of twitching had ceased, the patient being, as it would seem, not completely narcotized, though unconscious. The paralysis which followed this operation did not, as in Baum's case, pass away immediately, but only after a number of weeks, though improvement began in the second or third week.

In the two last cases, finally, this paralysis was still more persistent, definite signs of improvement not showing themselves until after nearly two months in my case, and nearly four in Eulenburg's, both of them having exhibited meantime the electrical reactions characteristic of the severer forms of facial palsy.

In none of the cases had the spasm returned at the time of the report.

In view of these results I should agree entirely with Eulenburg in saying that this operation, valuable as it is, is not to be set down as trifling, the patient having to prepare himself for the chance of a paralysis lasting some weeks, though certainly, if the final result could be assured, this would be but a small price to pay for relief from the distressing symptoms of spasm. What is needed seems to be some more definite guide than hitherto as to the amount of stretching which is safe and necessary.

¹ The JOURNAL, vol. xcvii. p. 252, and vol. ci. p. 336.

As a means to this end it would be well if future operators would use, where practicable, a spring balance to record the force applied. Experimenting in this way on the facial nerve of the dog, supported on a hook, as in Schüssler's case, I found that a pressure of about seven pounds caused a paralysis which began to pass away within forty-eight hours, and that a pressure of nearly forty pounds sufficed to break the nerve, which parted on the peripheral side. It was perfectly practicable with the dog, and would no doubt be the same with man, to recognize the gradual onset of the paralysis by exciting reflexes from the cornea, while still preserving a sufficient degree of anaesthesia to prevent pain.

Of other important cases of nerve stretching, two by Czerny may be mentioned, upon the *trigeminal* nerve, the supra and the infra-orbital branches respectively for neuralgia. In the former case nothing was gained by the operation, though resection of the nerve afterwards brought about a cure; in the latter the nerve was pulled until it tore, and this was followed by keratitis and ulceration of the cornea with severe pain, the final result being, however, improvement. In view of this experience, Czerny rates nerve stretching below resection for the relief of trigeminal neuralgia, and thinks it should be employed only with motor or mixed nerves, where section is hardly admissible, or in cases where it is only necessary to make a moderate impression.

On the other hand, Stewart reports a case in which the infra-orbital, and afterwards the mental, branch of the trigeminal nerve was stretched for severe facial neuralgia, of many years' standing, in a man of seventy, with at last relief to the pain.

Kocher and Masing, likewise, have operated with favorable result on the supra-orbital branch of trigeminal, Spence on the infra-orbital, and Credé on the third division of the same nerve, at its exit from the skull.

It is probable that in some of these cases the stretching amounted to deep section, plus some undetermined "alterative" influence upon the nerve and nerve-centres, for in Kocher's case the cutaneous anaesthesia which followed the operation had not entirely disappeared at the end of three months, and Masing speaks of stretching the nerve on a hook till it hung in the wound like a loop.

Langenbuch, physician-in-chief to the Lazarus Hospital, in Berlin, has reported a case of, it would seem, genuine *locomotor ataxia*, though of very short duration and exceptionally rapid development, where all the four principal nerve-trunks of the lower extremities were stretched in two sittings, with the effect not only of relieving the intense neuralgia, which had been excessively severe for many weeks, but of removing the ataxia as well, as was discovered after the temporary paralysis from the stretching had passed away.

The author thinks that perhaps the disease may have been confined to the peripheral nerves and thus have been within reach of this treatment, but for this we should have to assume that the influence of the stretching was still effectively felt as high as the nerve-roots, the possibility of which has usually been denied, among others by Vogt. Czerny, to be sure, reports a case of spinal paraplegia with severe neuralgia, from Pot's disease, where the spinal symptoms seemed to have been made worse by stretching the two sciatic nerves, and Westphal has briefly referred to an instance

where, to all appearance, a circumscribed myelitis had been set up by traction on the crural nerve and its roots; but these are very exceptional results, if one may judge from the recorded cases.

Another possible explanation of Langenbuch's case is that some inhibitory action upon the spinal cord was set up. This is in accordance with some recent experiments by Hehn, who found that both with frogs and rabbits stretching the sciatic lowered the reflex irritability of the cord.

Westphal has tried stretching the nerves of the axillary plexus in a case of *paralysis agitans*, and though the operation (performed by Bardeleben) did not accomplish what was hoped, it had no consequences which need deter one from trying it again, especially in view of the almost hopeless prognosis in this affection.

To sum up the clinical evidence, it would seem that we have in nerve stretching an operation of great value for the relief of many forms of neuralgia, and muscular spasm, and perhaps neuritis, but that neither the indications for the operation, the best method of performing it, nor its attendant dangers have as yet been sufficiently defined. What degree of traction can the various nerves of the body safely endure? Upon which nerves can the operation be performed with the best chances of success? Are central as well as peripheral lesions susceptible of cure in this manner? Are second operations upon the same nerve practicable? Does it make any difference whether the central or the peripheral portion of the nerve is stretched? Should the nerve be crushed as well as stretched? Is the effect of a series of quick, short pulls different from that of one prolonged stretching? Does the existence of acute or sub-acute neuritis contra-indicate the operation? What are its attendant dangers? In what manner does the stretching act? These are all questions which call for more definite answers than they have hitherto received. As to the proper amount of traction to be used, it is plainly not enough to know the power of the nerve as a whole to withstand rupture, for the nerve-filaments give way under a far less force than this, and what is desired is to produce a temporary but not a permanent loss or diminution of functional power. Mitchell has stated that the sciatic nerve of the rabbit bears elongation up to three fourths inch in three inches without entirely losing its faradic irritability, and similar observations have been made by other physiologists. It is, however, difficult to estimate the amount of elongation under the conditions present during an operation, and a better method for practical purposes is perhaps to try and reproduce these conditions in the laboratory. Experiments of this kind on the facial nerve have been referred to above. With regard to the sciatic nerve, the Edinburgh practice in the treatment of sciatica (as described to me orally) is to pull three or four times, with a force about sufficient to lift the leg from the table. In no case which has come to my notice has this been followed by permanent, though sometimes by temporary, paralysis. As to the performing of second operations on the same nerve, this seems to be difficult with the nerves of the face, though not always impossible even there. It was attempted by Stewart with the infra-orbital nerve, but the nerve was found to be so imbedded in cicatricial tissue that it had to be cut. Spence, however, restretched the infra-orbital on the fifth day after the first operation, with successful result.

As to the difference in effect between *stretching the*

central and the peripheral portion of the nerve, it is probable that where some influence is to be exerted on the nerve-roots or the spinal cord, the central stretching is more effective, and in general it might be theoretically supposed that a moderate elongation of the whole nerve would be better than a corresponding or even a greater elongation of a part. On the other hand, it is to be remembered that there is more risk in stretching the central part of the nerve. Thus, as in Westphal's case, a circumscribed myelitis may result, or, where the nerve is imbedded in bony canals, and the length which is susceptible of stretching is thereby limited, rupture may occur, as in Czerny's case. Furthermore, it may often be as useful to interpose a limited stretch of nerve of which the irritability has been thus artificially lowered between the lesion and the periphery, as it is to bring about this condition in the whole nerve. This is perhaps eminently true of neuralgias and spasms of central origin, that is, not complicated with neuritis.

Here, by the temporary interposition of an obstacle to the passage of the nerve-current the diseased centres are shielded for a time from irritation, on the one hand, or prevented from displaying it, on the other, and thus an opportunity is given for rest and repair.

Another argument in favor of local or peripheral rather than central stretching is to be drawn from the fact that crushing (as, indeed, also section) of the nerve sometimes seems to serve as well as stretching it, though it is the opinion of most writers that, on the whole, stretching is much the better and less severe operation. It is well known (Ranvier) that the continuity of nerve-fibres, involving degeneration of the peripheral end, may easily be broken by crushing with forceps, and the force applied is more or less easy of quantitative estimation.

As to the relative merit of *quick and short* as compared with *slow, prolonged* stretching, the data are insufficient for a decision.

The mechanical effects of the former are the greater, and if it is desired to influence the spinal centres this method is probably to be preferred. Thus, Vogt is quoted as saying that in tetanus the operation should be done in this way, and at a point as near as possible to the central organ.

On the other hand, it is probable that a greater elongation is produced by a slow, prolonged pull.

Nerve stretching has not, so far as I know, been used for acute *neuritis*, but repeatedly in subacute and chronic neuritis; thus, by Credé, in a case of neuritis of the radial, following on an injury received twenty months before, with relief of pain and contracture. The principal *dangers* attendant on nerve stretching have already been incidentally alluded to. Besides these, Nussbaum speaks of secondary hæmorrhages from the rupture of vessels running with the nerve trunks as an accident to be guarded against, and it is possible that a caution from the same observer against too timid handling, as likely to do more harm than good, suggests a danger not as yet defined. If the fact be true, the only explanation of it that I can find is in the statement by certain physiologists that slight stretching increases the irritability of the nerve.

Usually the operation is a slight and harmless one, as is indicated, for instance, by the statement of a patient who had been thus treated for sciatica, that he would have it done again to obtain relief from a fortnight's pain.

Of the *modus operandi* of the operation, we know definitely but little. Stretching certainly diminishes the irritability of the nerve, and Ott has recently shown that the time which elapses between an electrical excitation and the associated muscular contraction is increased thereby.

Westphal discovered, three years ago, that stretching the crural nerve of the rabbit prevented the usual tendon-reflex (patella) from taking place, even though the voluntary motion and electrical reaction seemed to be unimpaired, and referred the result to the diminution of tension in the muscles concerned, due to the slight impairment of functional activity of the nerve.

Probably at every operation a greater or less number of nerve-filaments are actually broken, and the peripheral ends of these no doubt degenerate. Still there must be many degrees of disorganization possible, short of this, to account for the recovery in periods varying from an hour to several days, yet not long enough to admit of the entire regeneration of the peripheral fragment.

The observations of Hehn have already been referred to.

Vogt¹ maintains that besides the changes in the mechanical conditions within the nerve itself, the walls of the blood-vessels of the nerve are subjected to analogous changes of tension, pressure, etc., especially at their point of entrance into the nerve-sheath, and at tributes to this the nutritive changes which take place in the nerve-tissue.

All these observations are interesting and important, but hardly satisfactory.

The practice of nerve stretching in tetanus has not been as successful as was hoped, though it still counts its warm adherents. It is still a perfectly justifiable operation where any surgical measures are called for, and may be either combined with nerve section or substituted for it as the less severe operation.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

CASES IN THE SERVICE OF DR. SHATTUCK.

REPORTED BY WILLIAM N. BULLARD, M. D.

PARENCHYMATOUS AND INTERSTITIAL NEPHRITIS COEXISTING IN THE SAME CASE.

DAVID H., a teamster, thirty-five years of age, an Irishman, now living in South Boston, entered the Massachusetts General Hospital October 14, 1879. He had always been temperate and of good habits. His work was laborious, and he was obliged to lift and roll heavy weights. With the exception of a fracture of the left humerus with dislocation of the inner end of the clavicle in 1870, with which he was confined five weeks, he had always been healthy. Two months previous to entrance he had noticed some swelling of the feet, and shortly afterwards of the face, and these had continued more or less ever since. He had lost strength steadily, but had no other definite symptoms till two days before entrance, when he began to vomit without known cause and had considerable headache. On entrance, he complained only of swelling of the feet and great weakness.

¹ Quoted in the *Centralbl. für medicinische Wissenschaften*, 1877, page 544.

The patient was a large-framed, well-built man of healthy appearance, though a little pale. On physical examination a systolic souffle was heard, loudest at the apex of the heart, but no increase of cardiac dullness could be detected. The first sound was inaudible over the aorta. Nothing else abnormal could be found, either in the chest or abdomen. The urine was pale and acid, its specific gravity 1010, and it contained one fourth per cent. of albumen. The sediment consisted of a little blood and an occasional blood, epithelial, and hyaline cast.

Three days after entrance the swelling of the feet was so great that he was confined to bed, and kept there for a week. Ten days after this, October 25th, a peculiar eruption, consisting of several small conical pustules and three or four large, raised bullæ or pyodracia, of the size of a five-cent piece each, appeared on the backs of the hands. They were all surrounded by an inflamed areola, were painless, and did not itch. At the same time he was also attacked with severe pain in the dorsum of the right foot. The vomiting, too, returned, and lasted almost incessantly for a week. At the end of this time, however, he became somewhat better, but meanwhile his sight had grown suddenly dim, and on ophthalmoscopic examination by Dr. Wadsworth hæmorrhages and ill-defined white patches were found about the disks of both eyes, with brighter, more sharply-defined, and smaller spots in the macular regions.

November 6th. The patient was eating and sleeping well. The examination of the urine showed the same characteristics as before, except that the amount of albumen had somewhat diminished, and the sediment contained considerable blood and fatty renal epithelium.

November 18th. The urine contained one fourth per cent. of albumen. The sediment consisted of very few hyaline casts, with an occasional fatty renal epithelium cell adherent.

About the middle of December the patient had begun to improve very much, the œdema had disappeared, and he had gained three pounds within a week. The urine remained as previously. On the 14th of January the patient was discharged, feeling at that time perfectly well, though still somewhat weak. The urinary sediment contained very few hyaline and an occasional epithelial and blood cast, with very little free blood. The other characteristics were the same as before.

The average amount of urine since entrance was eighty-four ounces.

The patient was seen again on the 16th of June, 1880. He was then pale and somewhat emaciated. He stated that he had been unable to work since leaving the hospital, although under great necessity to do so. The urine was then pale, acid, of a specific gravity of 1007, and contained over one per cent. of albumen (by estimation). The sediment consisted of numerous blood, epithelial, fatty, and hyaline casts, with a few free blood corpuscles and a considerable amount of free, fatty renal epithelium.

[This case is interesting as being one of those cases of renal disease in which both the parenchymatous and the interstitial forms exist together, and the symptoms are partially those of each.]

CIRRHOSIS OF THE LIVER, WITH OMENTAL HERNIA.

In January, 1880, there entered the hospital a man sixty-three years old, a Hungarian by birth, but for

many years a resident of Boston. He had been a healthy man until six years previous, when he was thrown off a horse-car and injured his left arm and side. He entered into a lawsuit against the horse-car company, and states that at this time he was ill for a year. About four years before entrance he was taken one day suddenly with hæmorrhage from the stomach, followed by jaundice, and shortly after by swelling of the feet, and ascites. He had had pain in the left side ever since the accident. He was in bed at this time for three months, and his abdomen was tapped and clear fluid drawn off. After this he recovered entirely, and was well for a year, when he had a second hæmorrhage, this time from the rectum, with a repetition of the former symptoms. He was again ill several months. Last November he had another hæmorrhage from the stomach, with jaundice, pain in the side, and swelling of the legs, abdomen, and face.

On entrance he was pale and haggard, quite weak, and slightly delirious. The physical examination was as follows: the heart and lungs apparently normal. Abdomen somewhat enlarged, tense, and dull all over when the patient is lying on his back, except posteriorly in the flanks, where some resonance still remains. Directly below the apex of the xiphoid cartilage a smooth prominence was seen, over which the skin was somewhat discolored. Its lower border was found on palpation to extend to within two inches of the umbilicus, while its lateral boundaries were ill-defined, that on the right blending with the left lobe of the liver, and the other being two to three inches beyond the median line on the left. The tumor pulsated, but there was no bruit. The resonance over it was diminished in comparison with that of the rest of the abdomen. The hepatic dullness extended from the sixth interspace in the right mammary line to the lower edges of the costal cartilages, and that of the spleen was slightly increased. The temperature, pulse, and respirations were normal. The tongue had a yellow coat.

Two days after, his delirium had entirely disappeared, and he was able to be up and about the ward. The urine was of normal color, slightly acid, and of a specific gravity of 1013. The sediment consisted of a very few hyaline casts. There was a very slight trace of albumen. The indican was normal, the amount of urea diminished, and that of the chlorides normal. The patient remained under observation for nearly six weeks, but no troublesome symptoms appeared, and he was finally discharged, "much relieved."

The diagnosis was made of cirrhosis of the liver and omental hernia.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, M. D., SECRETARY.

MAY 8, 1880. Fifty-eight members present. DR. F. A. HARRIS in the chair.

The following was unanimously adopted as an expression of the society:—

"In taking official notice of the decease of Dr. Adino B. Hall, the Suffolk District Medical Society desires to record its appreciation of the fidelity and courtesy with which he filled the office of treasurer of the society during the past twelve years, and also to testify to his character as an honorable and conscientious

physician, warm-hearted and genial in his relations with all men, and considerate towards the suffering and needy. The Fellows of the society respectfully tender to Mrs. Hall their sympathy in her bereavement."

DR. CHADWICK informed the society that Mrs. Hall had presented to the Medical Library Association Dr. Hall's medical library and surgical instruments.

DR. DOUGLAS GRAHAM presented a paper entitled *Massage in the Treatment of Uterine Disease*, with a report of eighty-two cases; a reply in part to the paper of Dr. Wing on the Modern Abuses of Gynæcology.

Dr. Graham believed that Dr. Wing attached too much importance to local treatment, and that therein he differed from many others eminently fitted to give opinions on the subject. He quoted from Thomas's *Diseases of Women*, showing how often a wonderful improvement was effected, in cases which had resisted all local treatment, by a sea voyage or a sojourn in the country; and that this improvement is manifest not only in the general state of the patient but locally also, and in some cases complete recovery may be thus obtained. He also quoted from Dr. Weir Mitchell, believing that the latter had clearly shown that many obstinate cases of chronic uterine disease can be fully cured by rest and excessive feeding, made available by massage and electricity.

Dr. Graham wished to show what had been accomplished by massage and properly regulated passive and resistive movements, without special aid from any other therapeutic measure. In all the cases Dr. Graham had personal knowledge of, the best medical advice had been sought before massage was tried as a last and hopeless resort, so that the remedy stood upon its own merits, unsupported by the faith of the patients. The psychical factors were supposed by many to be the sole means of influence in massage, as if they were not common to all procedures, whether medical or surgical. Dr. Graham then gave the results obtained by Dr. Asp (the director of an institution at Helsingfors for treatment of disease by means of massage and medical gymnastics) in seventy-two cases of chronic uterine affections coming under his care in the course of four years. The method was general massage, not rubbing alone, with passive and resistive movements graduated to suit different cases. No local massage of the uterus was used by Asp, as has been done by some others, with reported good results. Cases of chronic inflammation of the uterus formed 35, or 48.6 per cent. of all the cases. Of these, 15 recovered, 13 were much improved, and seven were without result. The average length of time of treatment was 8.6 weeks for single women; 15.4 weeks for the married. Six cured cases had had no relapse as late as 1878. (The date of the recovery not being stated we are left to infer that this still continued after from one to four years.) Three cases had no relapse at the end of a year, and in three cases there was a relapse after birth or abortion. In three cases relapse occurred after two, nine, and ten months without any ascertainable cause. It is interesting to note that Dr. Nostrom, of Stockholm, has endeavored to apply massage directly to the uterus by placing the index finger in the posterior cul-de-sac and grasping the uterus from the outside with the right hand. The uterus is compressed and kneaded and rubbed between the fingers. In 138 cases of chronic metritis Nostrom claims to have obtained 43 complete cures and 70 nearly complete ones; nine cases of hæmorrhagic endometritis were cured. Massage acts in these cases

by counteracting inflammatory stasis and producing resorption of leucocytes which have migrated into the surrounding tissues. It also gives tonicity. The method is repugnant, but Nostrom invites criticism. Dr. Asp also gained good results in chronic catarrh of the uterus. Of seven cases four recovered, two improved, one remained unchanged. The average duration of treatment was 9.3 weeks; the prospect of relapse is worse here than in chronic inflammation. Changes in position of the uterus, with the exception of slight descent, did not present themselves often. Of seven cases two were cured, three improved, and two unaffected. Flexions of the uterus gave less favorable results. The health of the patients was improved during treatment, but the flexion remained the same. The result of the treatment was good in ovariitis and perimetritis. Of the whole 72 cases Asp states 23 recovered entirely, 34 were improved, and in 15 no result was obtained, and he claims that this proves the method deserving of more confidence from physicians. Dr. Graham's own experience of massage in cases complicated with uterine affections was limited. In three cases of young ladies who suffered greatly from headache, backache, and dysmenorrhœa complete relief was given by massage. No local trouble had been found in these cases. He also cited two others, which with the former might all be classified under the head of neurasthenia; the sixth case was neurasthenia complicated with anteversion. She improved very much, but still was an invalid. Several other cases which had come under observation were cited, where with marked local trouble, massage seemed to be of great value.

Cases of a chronic or subacute nature are most likely to be benefited by massage. Massage of the back alone seems to increase the menstrual flow. In certain cases of uterine affection massage has succeeded where everything else has failed. The questions to be determined are, in what case to use it, and in what stages it may be employed.

Its influence is preëminently tonic and sedative. It gives rest and exercise at the same time. It increases the area and speed of the circulation without calling on the heart for increased activity. It is powerful for harm as well as good; an overdose may be exhausting. The only rule is, Stop short of fatiguing the patient. A great deal of rubbing passes for massage which is not entitled to the name. Dr. Graham then described the proper method of manipulation. Like medicine, massage is an art, not a science. The same may be said of massage which John Hilton said of surgery: "There is much in surgery which cannot be systematized, which cannot be conveyed from mind to mind in books or articles."

DR. BAKER opened the discussion. He thought that in order to understand properly the relation between massage and the treatment of uterine cases the latter should be divided into two classes: first, those where the uterine condition is the primary lesion, and the neurasthenia developed subsequently, and dependent in a great measure on it; second, cases where the neurasthenia is the primary trouble, and the uterine lesion follows as a result of the nervous debility.

In the first class massage will accomplish something by quickening the circulation through the muscles and skin, thereby relieving in a measure any local congestion. But he should expect by far the best results from the massage in the second class, for here it is one of the most valuable agents in the restoration of the

nervous and physical strength. Whereas he should be unwilling in the first instance to say that massage would accomplish everything, so, in the second, he should be unprepared to say that special local treatment was entirely uncalled for. He was sure that that practitioner will be most successful in the treatment of uterine cases who makes most clearly the above discrimination.

Recent Literature.

L'Année Médicale (deuxième année), 1879. Résumé des Progrès Réalisés dans les Sciences Médicales. Publié sous la Direction du Dr. BOURNEVILLE. Paris: E. Plon et Cie. 1880.

This volume is a yearly review of progress in the different branches of medicine. The first of the series, which was for the year 1878, met with a favorable reception, and the present volume is improved in several respects, especially by the addition of separate chapters on medical jurisprudence and dentistry, and by the greater attention paid to therapeutics.

The progress, as might have been expected, is largely French progress, but enough is incorporated from the outside world to excite the curiosity, and we least of all should be captious on this point, for there is another handsome notice of litholopaxy taken from the JOURNAL's report of the discussion at the meeting of the Medical Improvement Society last November, in which the name of a former interne des hôpitaux de Paris evidently caught the eye of the *collaborateur* on this branch of surgery.

The book, though written for French readers, is a useful one for general reference. It already covers its ground as well as could be demanded from its size, and yearly improvements are promised; its value and convenience are increased by an index of authors and an analytical table of contents. Dr. Bourneville is aided in its compilation by a large and competent staff.

Lessons in Gynecology. By WILLIAM GOODELL, A. M., M. D. Second Edition. Philadelphia: D. G. Brinton. 1880.

It is a great compliment to Dr. Goodell, for which we are genuinely glad, that a second edition of his work should be called for within six months of the issue of the first one.

It is no more than the merits of the book justly demand; and, judging from the increased value of this edition, we should be surprised if the author were not repeatedly called upon in the same way. The original lessons have been carefully revised and enlarged, and several new illustrations added. Four new lessons have been incorporated, namely, Modes of Examination; Some Affections of the Vulva and of the Surrounding Parts; Of the Causes, the Prevention, and the Cure of Laceration of the Female Perineum; and Ovaritis and Prolapse of the Ovaries. Of these the two latter greatly enhance the worth of the book. But it is difficult to consider well the subject of Modes of Examination, in the short space allowed to it by the author; and we think it in no way up to the general high standard of the other lessons. All that we said in praise of the volume when reviewing the former edition, we would reiterate; and the goodly amount of new material now found therein makes us only the more ready to commend it to every practitioner.

Medical and Surgical Journal.

THURSDAY, AUGUST 26, 1880.

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MORE "CRUELTY TO WOMEN."

THE worn and pallid appearance of many girls and young women employed behind the counter in shops and stores is certainly calculated to excite the interest of the philanthropist, and to suggest to the professional mind the query as to how far this may be the direct result of their occupation and of the long hours which they are compelled to pass upon their feet. Attention has been several times called to this subject, but so far fruitlessly. Two years ago some remarks were made upon it in our own columns, and the London *Lancet* has again taken up the question in an editorial which was reprinted entire in our number for August 5th. The *Lancet* is disposed to divide the responsibility for the cruelty inflicted, if such there be, between the greed of employers who will not hire a sufficient number of saleswomen to do the work demanded of them, and the thoughtlessness and exactions of eager and ungente female shoppers who in the pursuit of choosing and matching are lost to all other considerations.

In many cases their occupation alone cannot justly be made responsible for the pallid faces and wearied manner of shop-girls, and it is moreover so difficult to get at the real facts of the question and to find a *point d'appui* from which to make any practical effort at reform, that it is more than probable that the matter will again be quietly shelved. This is the conclusion to which the result, or rather the want of result, of the recent inquiries of one of the sanitary inspectors of the New York Board of Health unfortunately leads. In the summer of 1877 Dr. Roger S. Tracy was requested by this board to investigate and report upon the health of shop-girls as affected by long-continued standing. In his report, recently submitted to the Board of Health, Dr. Tracy says: "In compliance with this request I began such an investigation, but met with difficulties of such an unexpected and apparently insuperable nature that I was forced to abandon it after procuring, with a great expenditure of time and trouble, the apparently unimportant statements embodied in this report." To avoid the anticipated failure of personal questioning in regard to such forms of disease as might be expected to result from the occupation of shop-girls, circulars were prepared containing questions which were sent to the owners of stores and factories where large numbers of young women were employed. Another set of circulars was put into the hands of the young women themselves. The result, which might also, perhaps, have been anticipated, was eminently unsatisfactory. The employers, even when visited in

person, invariably found some excuse for not filling out the circulars; and the answers of the girls, if received, were irrelevant or jocose, giving the impression that they regarded the inquiry either as impertinent, or as calculated to bring them into trouble with their employers.

Any real information obtained was by conversation with the employers. The hours during which young women are required to be at their places in the large establishments in New York are from eight A. M. to six or seven o'clock P. M., with half an hour for luncheon, and in some places two hours "off" twice a week. By some employers the apparent debility and weariness of the girls was attributed to bad food and insufficient sleep; to evenings spent at parties, picnics, and balls, and luncheons of cake, pie, and pastry from the neighboring confectionery instead of wholesome food from home. Others attached less importance to the influence of improper food and insufficient sleep, and stated that there was very little sickness among their saleswomen, but that their cashiers, who had to sit all day, were constantly breaking down, and that they were consequently considering the propriety of substituting men for the women thus engaged.

Dr. Tracy then called upon some saleswomen at their homes, and questioned them and their parents. He met, however, with no encouragement, and was obliged to abandon this method also. Seven of the girls visited by him, who are compelled to stand all day, considered themselves in very good health, with the exception of occasional pains in the feet; one felt better when at work than when at leisure, and another had abandoned one place because she had too many holidays. In so far as this testimony has value, it merely shows the difficulty of collecting any which is reliable.

As a last resort, Dr. Tracy sent out circulars from the office of the Board of Health to forty different houses, with blanks for the desired information. Not one came back, though all were accompanied by stamped envelopes. The dispensaries were then visited, but it was found that no record of the occupation of the female patients was kept. In conclusion, Dr. Tracy says: "This was my last attempt to obtain the facts I was in search of. There seemed to be no other available source of information, and so after many months spent in these fruitless inquiries I was forced to abandon the investigation."

HOSPITAL BOARD VERSUS HOSPITAL STAFF.

WE believe the settlement of the dispute between the medical staff and the managers of Guy's Hospital is now in the hands of a committee of arbitration, consisting of some well-known gentlemen, whose decision will be awaited with interest even among those whom it does not immediately concern. It was perhaps fortunate for the staff, though not for the victim, that at a critical stage of the controversy one of the new nurses should have seen fit to "polish off" a feeble tuberculous patient with a disciplinary cold bath, and

should now be undergoing an imprisonment for three months for manslaughter. Before that occurrence there seemed to be much uncertainty as to what might be the final upshot of the quarrel. Our regular London correspondent discusses the situation, as then existing, in his last letter, and expresses the opinion that there can be little doubt which side will win in the long run, — the lay authorities with an assured income of forty thousand pounds a year at their disposal, and caring little whether the doctors resign or not, or the latter, who cannot afford to cut their connection with the hospital and school, whose places would be quickly filled if they did, and who, hence, can do nothing but protest.

Dr. Fothergill, writing to the *Philadelphia Medical Times* a letter in which, spite of the anger of the editor of the *British Medical Journal*, he pursues still further his reflections upon the social standing and professional morale of the English medical man, takes much the same view. He says: —

"Then the reader may ask, 'Why do not the staff resign *en masse* and bring their opponents to their senses?' Just for one reason at least, because they know that there would be no difficulty experienced by the governing body in filling their places. They know quite well that in the huge mass of medical men in London there are a sufficiency of men, not unknown to the profession either, to whom the temptation of being on the staff of Guy's Hospital would be too much for their conscience and their power of resisting temptation. Even in its present position, shorn of much of its glory, Guy's Hospital could be run with a new staff, by no means contemptible intellectually, at very short notice. Hence it is unavoidable that the staff act warily. To resign *en masse* would be acting suicidally in the face of the facts recorded above, or at least what I apprehend to be facts. It is just this unfortunate fact that medicine offers a peculiarly good field for the polished man devoid of principle, who affects an almost impossible height of virtue, and leads a life of actual depravity, that paralyzes action. The profession knows well what untrustworthy elements there are in it, and the large proportion of men in it who are virtuous from the absence of temptation, but who could not be trusted in the presence of temptation, and they themselves as well as other people know it. In saying this I do not desire to disparage the profession as a body; the bulk of the profession are honorable men, as every one knows. It is the men who vulgarly are called 'sneaks,' the men that cannot be relied upon in an emergency, or rather that may be relied upon safely enough to break down like a bad gun-barrel under the government test, that are the plague of the profession."

On the other hand the *Lancet* comes to us with a vigorous editorial on hospital management, whose brave words we give our readers in another column, which goes straight to the bottom of the difficulties as at present existing in London between the managing bodies and medical staffs of hospitals in general; difficulties which, at no distant day, may possibly

disturb hospital harmony in the largest of American cities.

In the light of the preceding letters and the unfortunate collision between Dr. Pavy and Sir William Gull, we suspect this editorial expresses what should be, from the medical stand-point, rather than what is, and it seems somewhat like the whistling which proceeds not from cheerfulness, but from the necessity to sustain a failing courage.

MEDICAL NOTES.

— The *Medical Times and Gazette* writes: "Now that the body is becoming more and more parceled out into little divisions, each, we take it, presided over, as in ancient fashion, by a genius of its own, and when specialists of all kinds are clamoring at the Medical Council to give them a more particular recognition, it was not to be supposed that our friends the laryngologists would be behindhand. They are about to hold their first congress under the shadow of the world-famed Duomo of Milan, or at least as near it as they can get. The language that is to be used is French, and certainly the introduction betrays something more than Gallic verse: 'La spécialité laryngoiatrique n'est plus une vaine illusion de quelques enthousiastes; c'est un fait.' We could have told them that a long time ago here in London, for the throat business' has not only been 'no vain illusion of enthusiasts,' but has been a very paying business indeed. Be that as it may, we find that there is a plentiful supply of papers promised, including, as a matter of course, the inevitable 'Dr. Lennox Browne de Londres;' but there is a marked absence of some of the best known authorities on the subject. At the same time there will sit in Milan other international congresses, — those, namely, of Ophthalmology and otology. We do not envy the happy visitors. Milan in the first days of September is not likely to be invigorating."

— The following report of the Hydrophobia sub-committee of the Scientific Grants committee will be presented at the annual meeting of the British Medical Association at Cambridge: —

The report of the Hydrophobia sub-committee has been delayed by the lamented death of Mr. Callender, its chairman. It is, however, the intention of the Hydrophobia sub-committee to present a joint report, showing the result of their labors thus far, early in the autumn. The work of the sub-committee includes a topographical account (with maps) of the distribution of cases of hydrophobia for a series of years, prepared by Mr. Ernest Hart; an elaborate and laborious digest of the literature of the subject has been made by Dr. William Ewart; a series of pathological examinations have been conducted by Dr. Gowers, who showed some of his results at the last annual meeting; another series by Dr. Turner (under the guidance of Dr. Greenfield) at the Brown Institute.

— At the same meeting the Hospital Out-Patient Reform committee will report, through its chairman, Mr. Holmes, substantially as follows: —

It has been strongly urged by some members of the committee that an effort ought to be made to persuade the managers of hospitals to change their out-patient departments into mere consulting rooms, — that is, to abolish treatment of out-patients, except, perhaps, in cases of accidents and discharged in-patients. The change, we believe, would be a great improvement, but we see no prospect of its being adopted in deference to any influence which we can exert; and, in fact, any recommendation of the kind is liable to be, and is constantly, met with the objection that, as the poor have been for many years invited to come in crowds to the out-patient rooms for the treatment of ailments of all kinds, it would be barbarous suddenly to shut the doors in their faces without making some provision for their treatment elsewhere.

In deference to this feeling, the chairman deferred summoning the committee until a scheme had been matured which had been for some time in preparation, under the auspices of a mixed committee, presided over by Mr. Stansfeld. The object of the scheme is to secure the coöperation of the great Friendly Societies in founding a large institution, or confederation, of provident dispensaries, in which all persons above the pauper class can obtain treatment, either at home or at the dispensary, as may be needed, in consideration of a small permanent payment, on the principle of mutual insurance. That scheme is now completed, and steps are being taken to carry it out. It is clear that if such a plan were generally adopted it would provide for the treatment of the ordinary ailments of the working classes, and would justify the public in requesting the managing bodies of hospitals to introduce those reforms into their out-patient departments which are agreed to be desirable. The only question is, whether the details of the proposed scheme are satisfactory; and on this question it is hoped that the Association will deliberate during the present meeting.

Without in any way pledging the committee either to the proposed scheme, or even to the principle of provident dispensaries, it is the opinion of the chairman and of the majority of the members of the committee that the out-patient department of our hospitals and dispensaries will never be adequately reformed until the working classes can be made to see that ordinary illness, like other accidents of humanity, must be provided for by their own exertions, and that it is only under special emergencies that charity ought to be brought into play; and until the medical profession can be brought to acknowledge that a great proportion of the ailments which are now treated in the out-patient department are unfit for hospital treatment at all, and can only be successfully managed by medical men having the same relation to their patients as private practitioners have in other classes of practice.

— In the *Bulletin de Thérapeutique*, June 15th, Dr. Charrier publishes a paper which he read at the Paris Société de Médecine; it terminates with the following conclusions: (1.) In some rare cases, in women who are otherwise quite well, the utero-vaginal secretions are quite sour, as is seen by their reddening litmus.

(2.) This acid may prove an absolute obstacle to fertility, as spermatozoa are killed in even a slightly acid medium. (3.) This abnormal state is to be remedied by an alkaline treatment, by means of alkaline drinks and baths, and tepid alkaline injections. (4.) When this acid condition has been neutralized, conception may take place. (Two cases in point are detailed.) (5.) This disappearance of acidity under the influence of alkaline treatment may explain the success which is obtained at alkaline and sulphuro-alkaline mineral water establishments in the treatment of sterility. In a note in the *Bulletin* of June 30th, Professor Pajot entirely confirms this statement, and says that for many years past he has been in the habit of prescribing injections of Vichy water in these cases of acid vaginal discharges. He observes that in fair women, and especially those with a red complexion, and more rarely in brunettes, the acidity of the secretions sometimes reaches such a point that, in spite of the extreme cleanliness, the acid odor is perceived during the passage of the speculum. Dr. Charrier says that the best liquid for injection in these cases is that devised by Byasson (water 1000 grammes, the white of one egg, and fifty-nine grammes of phosphate of soda), in which he was able to keep spermatozoa alive for twelve days at a temperature of 36° C.

— The *Edinburgh Medical Journal* translates the following from the *Anzeiger d. Wiener Gesellschaft d. Aerzte*, 1879: Langer has studied the white glancing atrophic lines found not only on the abdomen, but also on the lower extremities, of pregnant women. As the epidermis over these is entire, they must depend on some solution of continuity or other change in the cutis. The interlacing of the areolar tissue bundles of the corium is not an irregular felting, but these are so arranged as to form rhombic meshes, whose long axis on the trunk corresponds in some degree to the direction of the ribs. The cutis can therefore be more easily stretched in a direction perpendicular to the long axis of these rhombs than in the reverse. When the distention of the abdomen is slight the stretching occurs in the above-named direction, and is soon compensated. It is otherwise when the stretching is considerable, if, in addition, the elasticity of the tissue is destroyed. Then the texture of the cutis assumes permanently a different arrangement. Thus sections parallel to the surface show fibres in lines almost side by side in the striæ, and it is to this that the silky glance which these exhibit is due. There is no solution of continuity, but a permanent alteration in the arrangement of the tissues, owing to tension. The papillæ and vessels experience similar changes; the former are flattened out, the latter run across the striæ in lines more or less straight. At Langer's suggestion, Krause and Felsenreich have investigated the direction of tension of the abdomen during pregnancy, and found that beneath the umbilicus tension takes especially the transverse direction round the umbilicus in all directions alike, and at a distance of ten centimetres beyond in a radiating direction. The silvery white lines follow in their arrangement the same law.

— A correspondent of the *Physician and Surgeon*, writing from Dresden, says: "I had nearly forgotten to mention that I have not seen a homœopathist's sign, or heard any mention of a homœopathic physician, during the week I have been in Dresden. I am told by a very intelligent gentleman here, well informed in matters pertaining to our profession, that homœopathy has almost entirely died out in this region of its birth."

NEW YORK.

— The registration of physicians for appointment on the new night medical service has just closed, two hundred and eighty-six names altogether having been handed in to the various captains of police throughout the city, who are authorized to receive them by the act of legislature providing for this service. Each name registered is to be submitted to the registrar of vital statistics, who is required to ascertain whether the applicant is in good and regular standing, and report thereon. In any case where the patient attended by the members of the service is unable to pay the physician's fee, this will be furnished by the board of health.

Thus far only about three hundred and fifty physicians have complied with the requirements of the medical act passed by the legislature shortly before its adjournment. This provides that every medical practitioner in the State shall publicly register his name, age, place of birth and residence, and the date and source of his degree of M. D. Neglect to register is punishable by a fine of fifty to two hundred dollars for the first offense, and from one hundred to eight hundred dollars or imprisonment for from thirty to ninety days, or both, for the second offense. One half of the fine goes to the person securing the conviction and the other half to the county treasury. The time for registration expires October 1st.

— On the 14th, a patient, recently from Galveston, Texas, who was supposed to be suffering from severe jaundice, was admitted to Bellevue Hospital, where he died on the 16th. There was a suspicion of yellow fever, however, and an autopsy was held. This did not show conclusively that the latter disease had existed, but the same precautions were taken as if such had really been the case. On the certificate made out after the investigation by the coroner the cause of death was stated to be "collapse from supposed yellow fever."

— The sanitary commission appointed to investigate the recent outbreak of sickness at Princeton College have made the following report through Dr. Edward G. Janeway, of the New York Board of Health, president, and Dr. Ezra M. Hunt, of the New Jersey State Board of Health, secretary: "The sanitary committee appointed by the trustees of Princeton College to examine into the cause of the late sickness are fully satisfied that it was owing to defects in the construction and oversight of the sewer system. Radical changes have been made, and all the former indoor appliances have been removed. The sewer connections have been taken up, and the cess-pool system has been abandoned. Thorough provision has been

made for additional water supply, although the former was found not to be contaminated. We are able to report such removals and constructions as put the college in a thorough sanitary condition. With these changes we now certify that the college property and buildings are in a proper sanitary state. The same thorough attention has been extended to the university hotel and to the town boarding-places of students. We therefore assure the alumni and friends of the college that the causes of the fever have been removed, and that those desirous of sending their sons to Princeton College can do so with entire confidence in its sanitary condition."

Miscellany.

LETTER FROM AN OCCASIONAL CORRESPONDENT.

ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

MR. EDITOR, — Yesterday the degree of honorary LL. D. was conferred by the university in the senate-house upon Dr. C. E. Brown-Séquard, F. R. S., Professor of the College de France, Paris; Dr. Chauveau, of Lyons; Dr. F. C. Donders, Professor of Physiology at Utrecht; Dr. S. D. Gross, of Philadelphia, U. S.; Sir William Jenner, Bart., K. C. B., F. R. S.; Sir William Gull, Bart., F. R. S.; Mr. William Bowman, F. R. S.; the Rev. S. Haughton, M. D., F. R. S.; Mr. Joseph Lister, F. R. S.; Dr. Denis C. O'Connor; Mr. John Simon, C. B., F. R. S.; Dr. Andrew Wood, F. R. S. E.

Scarlet gowns were worn in the senate-house by doctors of the university on the occasion.

The reception given to the Nestor of American surgery, Dr. S. D. Gross, was most gratifying. The selections for the above distinction from the old university had been so well made that, with a single exception, each recipient of the honor was individually greeted with the hearty applause of all in the senate-house, which was too closely packed to afford standing room to another of the crowd who pressed for admission at the open door and windows. The exception, to prove the rule as to the popularity of the new honorary LL. D.'s, was furnished in the person of Sir William Gull, and exhibited a manifestation of medical *esprit de corps* not easily to be forgotten, and which, it may be hoped, will bear permanent fruit, by causing medical men of all ranks to be careful how they assail before the public the professional conduct of their confrères.

On Sir William Gull entering the senate-house he was met with an unchecked torrent of hoots and hisses. This demonstration ceased and gave place to one of applause as in turn Brown-Séquard, Chauveau, Donders, Gross, and Jenner, after being introduced by the university orator in a Latin speech, were received by the vice-chancellor.

But the temporarily bated storm of disapprobation recurred with renewed strength when Sir William Gull rose to accompany the orator, whose share in the ceremony of Sir William Gull's installation had to be postponed for full fifteen minutes on account of the uproar. When at last the orator was permitted to proceed he did so amidst repeated interruptions from all

parts of the senate-house, by cries of "Turn him out," "Do not gull us," "Where is his nurse?" "Take off the gown," "Let us have Pavy." The cause for such a demonstration will be found by such as have an opportunity of watching the controversy now waging in Guy's Hospital, one of the largest and oldest of the London metropolitan medical schools, between the lay governors, as identified with the treasurer, and the medical staff.

Such is the heat of feeling aroused that I will endeavor to give no clew to my own opinion of a deplorable matter, about which a brief sketch may be interesting.

The treasurer, without consultation with the medical staff, secured the services of an eminently experienced and skilled lady to fill the office of matron, with a view to setting the nursing of the hospital in thorough order. At this, it would appear, the medical staff took grave offense, and as a consequence frequent clashing occurred with them in the introduction of what the new matron considered essential to the carrying out of the purpose for which she had been appointed.

The medical staff and a self-instituted lady champion of the matron rushed into public print, as will be seen from a reference to the *Times* during the last six weeks.

Inquiries were held, and the matron received the support of the governors whilst they made efforts to conciliate the medical staff. However, the cry seems to be, War to the knife. An unfortunate young woman was admitted an in-patient to the hospital under the care of Dr. Pavy; she died under circumstances which led to a coroner's inquest, whereat Dr. Pavy, an old-standing full physician of the hospital, testified to admitting the patient with slight phthisical indications and hysterical symptoms, and recommending that she should be encouraged to exert herself. This patient having soiled her bed, was so conveyed to a bath, which was so administered, by an experienced nurse, that after a careful trial a jury found her guilty of manslaughter, and Justice Hawkins sentenced her to three months' imprisonment.

At this trial Dr. Pavy's evidence was to the effect that the deceased's death, which resulted from tubercular meningitis, was attributable to the treatment she had received in connection with the bath, whilst Sir William Gull, a consulting physician to Guy's, swore that the deceased died from tubercular meningitis, a disease invariably fatal, often having equivocal symptoms, unquestionably present when the deceased was admitted, and which a sound physician ought to have distinguished from hysteria. Sir William Gull's testimony was based on the clinical report kept in the hospital by a ward clerk, more or less from the dictation of Dr. Pavy.

This controversy was at the base of yesterday's demonstration.

Some nine or ten hundred members of the British Medical Association are attending this meeting, which is proving in every way highly successful.

Dr. Bradbury, of Cambridge, and Timothy Holmes, of London, have respectively delivered the addresses on Medicine and Surgery, both of which were eminently successful; each dealt with the progress of his craft, and Mr. Holmes referred especially to the position of joint excision in modern surgery, which was paying the highest tribute to the late Sir William Ferguson,

who had enunciated and consistently advocated the truest principles of conservative surgery. Mr. Holmes eulogized Dr. Gross.

The gold medal of the British Medical Association for distinguished merit was presented to Dr. William Farr, M. D., F. R. S., D. C. L., C. B. The award was made by the Committee of Council in the following terms: Resolved unanimously, That the gold medal of the association be awarded by the Committee of Council of the British Medical Association to William Farr, M. D., F. R. S., D. C. L., C. B., as an expression of their high appreciation of his long, unwearied, and successful labors in behalf of statistical and sanitary science, as a recognition of the light he has thrown upon many physiological and pathological problems, and on account of the extraordinary services his work has rendered to the advancement of the health of the nation.

CAMBRIDGE, ENGLAND, August 12, 1890.

HOSPITAL MANAGEMENT.

AGREEING with the *Lancet* that the question of hospital management, which involves the secondary one of a nursing system, is a great and practical one, though perhaps not so immediately pressing in our large cities as in London; and believing also that nothing but good can come of its being fully and freely discussed, we reprint entire a recent editorial on this subject, in which very clear and decided opinions are expressed:—

Let us go aside awhile, out of reach of the heart and head-aching din, and the acrimonious disputation about the "nursing system" and "hospital management" at Guy's, and try to discover the principles involved, or at stake, in the contention. What makes it especially important to do this is the fact that whereas the grand engagement at a metropolitan hospital is just now the centre of interest, the conflict on this particular field is only one episode in a campaign on the final issue of which the best interests of the sick poor, and of medicine as an art, if not also as a science, depend. We may tell the governors of hospitals generally that medicine has made the hospitals, and if they think to succeed in rendering the simply administrative element, however philanthropic, the foremost feature in these establishments, they are mistaken, and not only in error, but engaged in a ruinous enterprise, which is neither to be tolerated nor endured.

Hospitals are not charities to which medicine contributes something, but, in a special sense, *medical* charities. Nor does medical aid consist of two parts, as certain members of the lay public would seem to suppose. It is not a combination of medicine and nursing, or nursing and medicine. The whole charity from first to last is *medical*. The sick poor are taken away from their homes, and are placed in an establishment which is—or should be—constructed and administered with a single eye to the complete and rapid cure of the cases admitted to its benefits. It is an engine of "cure," and the engineer should be—must be—an expert in the art of curing. This is the principle of the hospital system, and it is this which is at stake in the dispute. The lay governors of hospitals are trying to make these institutions houses of charity, and to treat the medical business as auxiliary! They wish to take charge of the sick poor and to nurse them, with or without the advice of the medical faculty; a corps of women who

in the energy of their discontent at the natural subordination of their sex, have seized on nursing as a sphere for the vent of their emotional natures, being the agents of this lay "sick-tending." The physicians and surgeons of the various hospitals are, forsooth, to be reduced to the level of practitioners called in by the governors to *advise* as to the treatment of their — that is, the governors' — patients. It is well to state this plainly and clearly, and to let it be understood, in a cool moment of reflection, without the irritation produced by that special conflict of opinion which must occur in connection with any particular case. Divested of personal attributes and considerations, the simple facts are as we have stated them: Hospitals are *not* homes for the sick, with medical advice as an adjunct; but institutions wholly medical in their character and purpose, and, therefore, they must be under direct medical control. We are not prepared to indorse or approve any half-measure or schemes whereby the medical faculty of a hospital is under grace of the lay governors to be allowed a muffled voice in the administration. Medicine must be paramount. If the present governors of these medical charities, the name and fame of which have been wholly made by the medical men connected with them, are not prepared to carry on the institutions in which they have a little brief authority on this footing, they must be taught by the logic and force of facts that these, and these only, are the terms upon which the medical profession will continue to regard the hospital as an appliance of *its* work and *its* charity.

We may seem to take high ground. We do so deliberately and after mature and even slow deliberation. The time has come to step outside the special circle of this dispute at Guy's, and appeal to the medical profession as a whole to declare itself on the question at issue. Without such action in concert as we now advise and invite, it is apparently impossible to make the matter clear to the governors of hospitals, who would seem to be strangely in the dark as to their actual position in relation to these charities. It has long been painfully evident that the committees of hospitals do not recognize the men who give time and skill to the service of a charity as among its principal contributors. The vulgar estimate of gold — as of higher value than money's worth in brains and power — pervades the councils of men who are simply the trustees of the money bequeathed or subscribed by the public for the cure of disease. That money has been left, or is given, to enable the medical profession to carry out its beneficent work as a body expert in the art of healing. The funds collected must, in common sense and fitness, be administered as the medical faculties of the hospital, the representatives of the profession in this matter, desire.

This should be self-evident; but let us look at the question in another way. The object is to cure, and the nursing of a patient is an integral part of his medical or surgical treatment. How then can it come to pass that intelligent and reasonable men presume to think they can fulfill the conditions of their trust by separating nursing from the rest of the treatment, and affecting to take it under *their* control? For ourselves, we must be excused for feeling some reluctance to intervene in this matter. We cannot help seeing the hand of Nemesis in these differences and disputes between the governors of hospitals and medical gentlemen all over the country. It was a short-sighted as well as a scientific blunder to sanction the introduction of independent nursing sis-

terhoods into hospitals. What the true interests of the sick require is not the presence of misguided "ladies" hovering round their beds and taking every "opportunity" to proselytize, but a fair number of women of their own class, trained to do their business as nurses, humbly and honestly, at the bidding of the medical officers. How would it be if the dispensers of drugs were to decline the "modest" duty of making up the prescriptions given by the staff, and take to prescribing on their own account, being supported in their presumption by the governors? The creation of a class of "sisters" who are above the rank of nurses has been a mistake, and we are now reaping the consequences. Apart from this view of the facts, however, there is that which we have already propounded and trust to see debated temperately and quietly by members of the profession whose names will have weight.

DANGEROUS TOYS.

PARENTS and friends purchasing toys for children cannot be too frequently warned of the dangers to which they may possibly expose those dear to them by such gifts. The following from the *Lancet* is to the point:—

A plentiful and cheap supply of toys will, it is generally considered, contribute to the happiness of children and the tranquillity of their parents. The recent action of the authorities in Paris suggests, however, that this result may not always be insured. A toy producing the symptoms of lead-poisoning is not so conducive to the diversion of children and the peace of their parents as the Parisian itinerant vendor of these wares would have us believe. A number of boxes loaded with toys painted in brilliant colors, elastic balls colored and varnished, lead soldiers in every variety of uniform, have been seized by the French police. It has been proved that the color would easily come off, particularly if the children put the toys to their mouths, a habit which seems inherent in every child's nature. These playthings, painted with poisonous colors, had been imported from Fürth, in Bavaria, and a committee of the manufacturers of that town have recently held a meeting on this subject. A circular was at once issued to all the toy manufacturers, urging them to use non-poisonous paints, and reminding them that according to the German law they had exposed themselves to penalties—fines and imprisonment. The *Gesundheit* of Frankfort justly remarks that but for the repressive measures adopted in Paris the German authorities would still neglect to enforce the German law. This apathy, according to the German papers, is all the more reprehensible, as the Fürth manufacturers send their toys all over Germany, and may therefore poison the children of the fatherland as well as the little Parisians,—a consideration which, in the Teutonic mind, must greatly accentuate the gravity of the question. To us the matter is not less serious. It is well known that the majority—in fact, nearly all—of the cheap toys sold in England are imported from Germany, and we regret that it is to the Parisians rather than to the English authorities that we must attribute the honor of seizing these dangerous playthings. We trust that no time will be lost in following this excellent example, and that a more strict watch will be kept to prevent the importation from abroad of poison for the nursery.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 14, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	627	301	33.33	23.13	6.54	4.62	.80
Philadelphia.....	901,380	333	148	23.42	11.71	1.20	1.20	6.31
Brooklyn.....	564,400	289	169	41.52	33.56	4.15	3.81	.35
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	130	71	36.15	26.15	3.08	—	3.08
Baltimore.....	393,796	158	80	42.40	19.62	1.90	6.33	4.62
Boston.....	363,938	194	101	47.94	39.17	3.61	3.09	2.58
Cincinnati.....	280,000	119	47	27.73	15.13	6.72	.84	9.24
New Orleans.....	210,000	72	24	25.00	6.94	5.55	2.78	1.39
District of Columbia.....	170,000	77	34	24.68	12.99	7.79	3.90	3.90
Buffalo.....	—	53	18	28.30	16.98	3.77	1.89	1.89
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,634	65	39	36.92	20.00	4.61	9.23	—
Milwaukee.....	127,000	54	37	27.78	22.22	3.70	3.70	—
Providence.....	104,862	42	18	33.33	23.81	2.38	—	4.76
New Haven.....	60,000	12	7	33.33	25.00	16.66	—	8.33
Charleston.....	57,000	34	12	23.53	14.71	5.88	—	8.82
Nashville.....	37,000	28	13	32.14	17.86	7.14	—	3.57
Lowell.....	59,340	43	—	39.53	37.21	2.33	—	2.33
Worcester.....	58,040	18	9	38.89	38.89	—	—	—
Cambridge.....	52,860	19	11	31.58	31.58	—	—	—
Fall River.....	48,626	34	11	5.88	—	8.82	—	—
Lawrence.....	39,068	14	10	50.00	42.86	—	—	—
Lynn.....	38,376	21	11	23.81	14.29	—	4.76	4.76
Springfield.....	33,536	11	5	27.27	18.18	—	—	9.09
Salem.....	27,347	22	14	63.64	59.09	9.09	—	4.55
New Bedford.....	27,268	16	7	31.25	18.75	6.25	—	—
Somerville.....	24,964	8	5	62.50	62.50	12.50	—	—
Holyoke.....	21,961	12	10	25.00	25.00	16.67	—	—
Chelsea.....	21,780	9	5	66.67	66.67	—	—	—
Taunton.....	21,145	7	4	71.43	57.14	—	14.29	—
Gloucester.....	19,288	10	7	10.00	10.00	—	—	—
Haverhill.....	18,478	8	2	12.50	12.50	12.50	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	3	0	66.67	33.33	—	—	—
Fitchburg.....	12,270	1	1	100.00	—	—	—	—
Sixteen Massachusetts towns.....	124,867	50	20	22.00	18.00	2.00	2.00	—

Deaths reported, 2593; 1251 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 874, diarrhoeal diseases 598, consumption 352, lung diseases 115, diphtheria and croup 78, typhoid fever 69, scarlet fever 39, malarial fevers 34, whooping-cough 25, measles 13, cerebro-spinal meningitis 11, erysipelas four, small-pox three. From *scarlet fever*, Baltimore 12, New York eight, Philadelphia four, Brooklyn, New Orleans, Buffalo, Providence, and New Bedford two, District of Columbia, Pittsburgh, Milwaukee, Newburyport, and Northampton one. From *malarial fevers*, New York nine, New Orleans eight, St. Louis six, Brooklyn four, Baltimore three, Buffalo two, Philadelphia and Nashville one. From *whooping-cough*, New York seven, Brooklyn five, Baltimore four, Philadelphia, St. Louis, and Nashville two, Boston, Cincinnati, and Pittsburgh one. From *measles*, Boston four, Pittsburgh three, Cincinnati and Fall River two, New York and Baltimore one. From *cerebro-spinal meningitis*, New York and Philadelphia three, St. Louis, Boston, District of Columbia, Lawrence, and Fitchburg one. From *erysipelas*, New York, two, Philadelphia and District of Columbia one. From *small-pox*, Philadelphia three.

Twenty-nine cases of diphtheria, 14 of scarlet fever, three of whooping-cough, and two of typhoid fever were reported in Brooklyn; diphtheria 15, in Boston; diphtheria eight and scarlet fever six, in Milwaukee; scarlet fever eight, diphtheria five, typhoid fever four, diarrhoeal diseases four, measles two, whoop-

ing-cough one, in Providence; diphtheria four, in Cambridge; scarlet fever four, diphtheria one, in New Bedford.

In 34 cities and towns of Massachusetts, with a population of 1,026,652 (population of the State 1,783,812), the total death-rate for the week was 25.46 against 30.28 and 31.82 for the previous two weeks.

For the week ending July 24th, in 149 German cities and towns, with an estimated population of 7,671,668, the death-rate was 33.2. Deaths reported, 5538; 3246 under five: pulmonary consumption 469, acute diseases of the respiratory organs 214, diphtheria and croup 98, scarlet fever 91, measles and röteln 71, whooping-cough 59, typhoid fever 52, puerperal fever 20, typhus fever (Thorn, Dortmund three) four; small-pox (Königshütte, Neuss) two. The death-rates ranged from 14.8 in Mainz to 51.2 in Breslau; Königsberg 39; Munich 35.8; Dresden 31.8; Berlin 44.2; Leipzig 29.6; Hamburg 22.1; Hanover 22.7; Bremen 19.1; Cologne 48.2; Frankfurt 25.6; Strasburg 36.7.

For the week ending August 7th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 23.9. Deaths reported, 3431: diarrhoea 711, acute diseases of the respiratory organs 175, scarlet fever 99, whooping-cough 80, measles 50, fever 40, diphtheria 14, small-pox two. The death-rates ranged from 17 in Bradford to 31 in Salford; London 24.2; Birmingham 24; Manchester 28; Bristol 19. In Edinburgh 17; Glasgow 21, Dublin 35.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.	
August 8	30.114	69	87	63	74	68	84	75	W	NE	0	10	11	0	C	F	C	—	—	
" 9	29.908	74	88	63	89	42	67	66	SW	SW	SW	9	18	14	F	F	F	—	—	
" 10	29.864	75	89	66	85	40	71	67	W	W	0	9	12	0	O	F	C	—	—	
" 11	29.989	68	75	64	65	63	94	74	0	SE	0	0	6	0	O	F	H	—	—	
" 12	30.033	69	84	63	89	44	74	69	0	W	NW	0	7	4	O	F	F	—	—	
" 13	29.932	72	86	63	72	37	75	61	NW	0	SW	9	0	8	H	F	F	—	—	
" 14	29.742	70	82	65	66	68	84	73	SW	SW	SW	10	15	5	F	O	F	—	.01	
Week.	29.940	71	89	63				79	Southwest.									2 20	.01	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 14, 1880, TO AUGUST 20, 1880.

HAPPESETT, J. C. G., major and surgeon. At the expiration of his present leave of absence to report to the commanding officer, Fort Ringgold, Texas, for duty as post surgeon. S. O. 161, Department of Texas, August 10, 1880.

TAYLOR, M. K., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Concho, Texas. S. O. 161, C. S., Department of Texas.

O'REILLY, R. M., captain and assistant surgeon. His leave of absence on account of sickness extended four months on surgeon's certificate of disability. Relieved from duty in Department of the South, and at the expiration of his present leave of absence to report by letter to the surgeon-general. S. O. 161, A. G. O., August 16, 1880.

MOSELEY, E. B., captain and assistant surgeon. His leave of absence extended ten days, with permission to apply for a further extension of two months. S. O. 75, Department of the Platte, August 17, 1880.

CARTER, W. F., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Taylor to report to commanding officer, post of San Diego, Texas, for duty as post surgeon. S. O. 161, C. S., Department of Texas.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The association opens its annual meeting in this city this week. The programme of the proceedings is as follows, omitting minor details:—

Wednesday, August 25. Meeting called to order by the retiring president, Professor George F. Barker, of Philadelphia; resignation of the chair to the president elect, the Hon. Lewis H. Morgan, of Rochester; invocation by the Rev. George E. Ellis, D. D., of Boston; introductory remarks by William B. Rogers, LL. D., president of the Institute of Technology; welcome by the Hon. Frederick O. Prince, mayor, on behalf of the citizens of Boston; additional words of welcome from his excellency John D. Long, governor, in behalf of the Commonwealth; reply by President Morgan. During the remainder of the forenoon session elections will be held and preparatory routine work done. From one to 2.30 P. M. lunch will be served in the gymnasium hall. In the afternoon there will be addresses by Vice-President Hall and by the chairman of the sub-sections, and in the evening the address of the retiring president will be given.

Thursday, the 26th. Business in the forenoon and address by Vice-President Agassiz. In the afternoon, by invitation of the president and fellows of Harvard College, the association will dine in Memorial Hall at 1.30 o'clock. Martin Brimmer, Esq., will preside at the table. After dinner the association will visit the Museum of Comparative Zoölogy and other college buildings and places of interest; at four o'clock the botanists will meet in the lecture-room at the botanic garden, when Professor Gray will read a paper on Rocky Mountain Vegetation, and Professor Goodale will offer a few remarks; at the same hour Professor E. C. Pickering will receive the astronomers at the observatory; also at the same hour Mrs. T. P. James will receive at her residence, 94 Brattle Street, such of the members as are interested in ceramics. In the evening there will be a

reception at the botanic garden at five o'clock; tea at six o'clock; visit to the observatory; reception of the association by Mr. and Mrs. Alexander Graham Bell, 150 Brattle Street, at 8.30 o'clock.

There will be three sessions for business, reading of papers, etc., at the Institute of Technology on Friday and one on Saturday forenoon. On Saturday afternoon, by invitation of the city of Boston, the association will make an excursion down the harbor; steamer Empire State will leave Foster's wharf at 2.30 o'clock, returning to the city about eight o'clock. Collation will be provided on board. Monday will be devoted to business in the forenoon, and in the afternoon the association will visit Salem and inspect the Essex Institute and the Peabody Academy of Science; also those choosing to do so will visit Rockport and make a geological excursion to Marblehead Neck. At Salem a reception will be given by S. Endicott Peabody, Esq.

On Tuesday forenoon and afternoon business sessions will be held, and in the evening Professor A. Hyatt will give a popular lecture on the transformations of Planorbis—a practical illustration of the theory of the evolution of species, with stereoscopic views, in Huntington Hall, at seven o'clock. Wednesday, September 1st, will be the final day for business, and on Thursday, September 2d, opportunity will be given for an excursion to the White Mountains and Moosehead Lake.

AMERICAN DERMATOLOGICAL ASSOCIATION.—At the fourth annual meeting of the American Dermatological Association, which will be held at the Ocean House, Newport, R. I., on the 31st of August and the 1st and 2d of September, 1880, the following papers will be presented: Tumors of the Skin, by Dr. C. Heitzmann; Papilloma Cutis, by Dr. W. A. Hardaway; Medicinal Eruptions, by Dr. A. Van Harlingen; Ainhum (for Dr. Da Silva Lima, of Bahia), by Dr. J. N. Hyde; Date of Evolution of the Erythematous Syphilide, by Dr. R. W. Taylor; Treatment of Eczema of the Hands, by Dr. L. D. Bulkley; Experiments on Epilation, by Dr. C. Heitzmann; Kerion Stage of Tinea Tonsurans, by Dr. I. E. Atkinson; Pityriasis Maculata et Circinata, by Dr. L. A. Duhring; Case of Phlyctenular Eruption of the Face and Hands, by Dr. A. Van Harlingen; Case of Lichen Planus first appearing on the Penis, by L. D. Bulkley; Scleroderma, by Dr. J. E. Graham; Herpes Progenitalis, by Dr. F. B. Greenough; Notes on Xanthelasma Palpebrarum, by Dr. R. W. Taylor.

ERRATA.—In the Foramina of Monro, which appeared in the JOURNAL of August 12th, the following errors occur:—

In the fourth paragraph, Gray's Anatomy should be included among the second set of names instead of the first.

In the list of works referred to, under Hyrtl, for "Zerglied erungskunst" read Zergliederungskunst.

The date of Vicq d'Azyr's Traité should be 1786.

BOOKS AND PAMPHLETS RECEIVED.—Atlas of Skin Diseases. By Louis A. Duhring, M. D. Part VII. Philadelphia: J. B. Lippincott & Co. 1880.

Calcium Salicylate in the Serous Diarrhoeas of Infants. By Alexander Hutchins, M. D. (Reprint.)

Anæsthesia by Ethyl Bromide. By H. Augustus Wilson, M. D. (Reprint.)

Transactions of the State Medical Society of Arkansas at its Fifth Annual Session. Little Rock. 1880.

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.¹

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M. D.,
Clinical Professor of Genito-Urinary Diseases, etc.

MUSEUM. VII. TREATMENT OF SYPHILIS.

GENTLEMEN, — Having followed the development and progress of syphilis presented in the clinical cases from the initial lesion, in its varieties, through the active or so-called secondary stage of the disease, in all its typical manifestations; having, still farther, studied with you its influence in connection with the so-called tertiary or later effects of the disease, I desire now to recall the significant fact that in regard to clinical history, physical appearances, and pathological conditions, as far as we have been able to appreciate them, all have been in complete accord with the position heretofore taken by me, claiming the simple nature of the syphilis, — simple in that it is the result of causes and conditions arising from undue activity of natural processes; in short, a simple hypergenesis of germinal matter, the varied lesions of syphilis occurring, in this view of the case, as the natural mechanical sequences of a localized accumulation of the superabundant material in the affected organism. This, it will be seen, is wholly opposed to the supernatural view of syphilis, heretofore and still supported or tacitly admitted by all writers on the subject up to the present time. With them the so-called SYPHILITIC VIRUS plays the leading rôle from first to last; its origin enshrouded in mystery, its action miraculous, in that it is accepted, by weight of authority, as pervading the entire physical organism at the instant of contact, independently of all known physiological laws, and frequently not apparently implicating the general health of the person affected. Unappreciable to the senses and eluding the most skilled and painstaking microscopical research, it is yet accepted as a vicious physical entity, a sort of corpuscular devil, which speeds through any and every tissue, depositing seeds of the multiform lesions of syphilis, warranted to bear its fruit in due time, and unmistakably branded with the cloven-foot. This is the conventional idea of syphilis, practically if not literally, and the theory of the treatment of the disease, when any theory is maintained, is based upon grounds not less unphilosophical, not less unscientific, than the popular conception of the syphilitic virus. The theory of the *virus* once accepted, *antidotes* are naturally in demand. Every remedy which aids to cure, or favorably modify, an attack of syphilis becomes an *antidote* of greater or less efficiency. The mode of its operation is not important; the result alone is of interest. This was the case in the fifteenth century, when mercury was first claimed to antagonize syphilis. It is of historical interest to know it was so vigorously used as an antidote then, and from time to time since; that while often recognized as producing beneficial results in the treatment of syphilis, it was alleged by many distinguished contemporaneous writers to have done more harm than good. But with all the abuse which has been heaped upon it,

much of it well deserved, we find as late as 1874, in the great discussion on syphilis which took place before the Clinical Society of London, in January of that year, Mr. Jonathan Hutchinson, senior surgeon of the London Hospital, and one of the most distinguished of living authorities on syphilis, distinctly claiming that "mercury is a true *antidote* to syphilis." Thus he says:² "I will at once express my belief that the drug is a real antidote for the poison, and that, if it is carefully and fully employed, it is capable of procuring the complete extinction of the malady." Mr. Hutchinson then goes on to explain what he means by the term *antidote* in this connection. For he says: "By an *antidote* we mean something which not merely conceals, but which counteracts and neutralizes. A chemical *antidote* effects a combination and produces a harmless compound. A vital or physiological *antidote* in all probability kills. It is in this sense that I wish to use the term as applicable to mercury in its relation to the living syphilitic virus." He then goes on to say: "The facts that we possess seem to warrant a belief that it (mercury) really destroys *it* (the syphilitic virus); that *it* prevents *its* breeding in the blood, if that process have not already taken place, and, if *it* have, cuts short *its* life in the tissues." I have thus quoted Mr. Hutchinson's views on the treatment of syphilis, because he is accepted at home and abroad as a great clinical authority; one who, perhaps, more than any other English-speaking writer, represents the present status of syphilitic science.

Mr. Hutchinson's conclusions in regard to the action of mercury as a "real antidote to the poison" of syphilis, it is proper here to state, are based upon purely *clinical* grounds. He accepts the virus of syphilis as a distinct entity on traditional evidence and without comment. *Clinically*, in his experience, mercury "*prevents it* (syphilis) *from breeding in the blood*, if that process have not already taken place, and, if it have, *cuts short its life in the tissues*;" and yet Mr. Hutchinson does not attempt to explain or even to suggest what is the "*it*" which he calls syphilis, except that it is a *living virus*. Mr. Hutchinson speaks of mercury "*preventing syphilis breeding in the blood*," and by the same means "*its life is cut short in the tissues*." The virus is then at times in the blood and in the tissues, but whether as one independent, living animal organism, *sui generis*, or a vegetable spore, we are left to conjecture. We are only told that whatever it is, mercury is its antidote. In his able and extended clinical observations Mr. Hutchinson has recognized the fact "that in practice a good many cases are really cured by mercury, the cure being proved by the restoration to good health, and in some cases by renewed susceptibility to contagion;" "that many cases of indurated chancre treated early by mercury never show any of the characteristic symptoms of the secondary stage;" "that when mercury does not wholly abrogate the secondary stage it exhibits a remarkable power in delaying it," etc. These conclusions, with others resulting from his clinical experience, have induced Mr. Hutchinson to claim and to teach that "mercury is a true antidote to syphilis." It is evident, however, that it is not an antidote in any true sense, and for the reason, among others, that (as claimed by Mr. Lucas, of London, also an authority in such matters)³ in most known antidotes the remedy

¹ Continued from page 197.

² London Lancet, January 17, 1874, page 87.

³ London Medical Times and Gazette, January 31, 1874.

bears some definite relation to the poison it modifies, or at least if added in quantity to the virus it may be expected completely to destroy it; but in syphilis the continuous administration of mercury for months fails to destroy the poison, so that some consider it desirable to continue the drug for two years after infection." Mr. Hutchinson himself says¹ that "in order to secure the antidotal efficacy of mercury against syphilis, it is desirable to introduce a considerable quantity into the system, and to protract its use over a very long time;" and "that pytalism and other evidences of the physiological action of mercury, so far from being beneficial, are, if possible, to be carefully avoided, since they prevent the sufficiently prolonged use of the remedy." In any case it is quite clear that no advantage has been gained by the assumption of Mr. Hutchinson that mercury is a real antidote to syphilis. No indication of any practical value is suggested by it in the treatment of the disease, that had not already been acquired from clinical experience. On a previous occasion the venerable and renowned syphilographer, M. Philip Ricord, announced before the Clinical Society of London the conclusions to which his clinical experience had then brought him, namely, that *the cure of syphilis was possible; but only through the systematic administration of small doses of mercury, always falling short of pytalism, and continued for at least one year.* This without any suggestion of the manner in which the mercury was supposed to act. He had found out this plan by careful experiment and intelligent observation. Mr. Hutchinson was led to the same conclusion and plan through the same or similar influences. The suggestion or claim that mercury acted as an antidote to syphilis was, then, without value in a practical point of view, and was objectionable, inasmuch as, under the influence of such an idea, the temptation to over-dose with mercurials would always present itself unless the practitioner had been chastened by a long and intelligent practical experience. Baümler, a distinguished and recent German authority, is inclined to accept the antidotal view. Thus he asks,² Are there remedies which act as direct antagonists to the virus of syphilis? And he answers, "In accordance with the experience of the last three centuries in the treatment of syphilis the answer to this question must be that *mercury appears to be such a remedy;*" but a little further on (page 278) he says "the intimate nature of its action is still veiled in obscurity."

My object in calling your attention thus specifically to the teachings of these recent eminent authorities is twofold: first, to bring you to appreciate the great value in which the mercurial treatment, first begun over three centuries ago, is still held; second, to show that this valuation has resulted from a clinical observation alone, and not from any real knowledge or appreciation either of the true nature of the syphilitic virus or of the manner in which the curative changes recognized as following its judicious use were effected. In other words, the present mode of its use as considered most judicious, and commended for general adoption by M. Ricord, Mr. Hutchinson, Herr Baümler, and all who accept their teachings, is still experimental and thus without scientific basis. *Mercury is administered because experience has shown that it cures syphilis.*

What we require now in order to make this knowl-

edge scientific is an explanation of its action based upon the known powers of mercury in its relations to living organisms and tissues, and an appreciation of the true nature and composition of the material which constitutes what we call syphilis. After a varied observation of over three centuries clinical experience has failed eminently in affording us this knowledge. Every clinical effort to penetrate the mysteries of syphilis through the assumption of a virus has proved futile. Modern science has applied the microscope in search of a syphilitic virus, and has become weary with its failures to discover a specific material or organism as its representative. Occasional suggestions that syphilis might possibly exist independently of any specific property or virus may be found in medical history. Broussais, the founder of what was known as the physiological school in France, made a profound impression upon the profession at large by denying (in accordance with the doctrines of his school) the existence of a virus in syphilis, and claiming that the treatment suitable for ordinary inflammatory affections was sufficient for the treatment of syphilis. Eminent medical men in Germany and England have also from time to time practically supported this view, and condemned the use of mercury in the treatment of syphilis. But the denial of the existence of a specific virus by Broussais and his followers was based upon purely theoretical grounds, and did not furnish any logical explanation of the nature or peculiar characteristics of the disease. The only practical result attained by this school was (through elimination of mercury from the treatment) to demonstrate that persons affected with syphilis might recover without the use of mercury. Mercury may thus be looked upon as a power to aid in curing the disease; although in abeyance at times to some extent by reason of injudicious use of the drug, and the fact that in accordance with Broussais's claim the disease would sometimes go on to recovery under simple treatment, it has nevertheless retained its reputation, and as a remedial agent is at the present day esteemed by the most experienced and judicious surgeons and medical men throughout the world as the remedy of greatest value in the treatment of syphilis. At this point, gentlemen, I would like to suggest that in full agreement with what has been said in regard to the nature and behavior of syphilis, it appears to me quite possible to accept the foregoing statement as to the value of mercury in the treatment of syphilis, and this, too, without accepting the assumption that mercury in its curative effect on syphilitic disease acts alone, or even chiefly, as an antidote to the so-called syphilitic virus.

A pregnant suggestion in regard to the mode in which mercury may act in curing syphilis is made by Mr. Clement Lucas, in the *London Medical Times and Gazette*, of January 31, 1874, in a reply to Mr. Hutchinson's claim that mercury acts as an antidote in syphilis. There, after remarking that even Mr. Hutchinson considered that the continuance of the mercurial treatment for a year might be necessary to obtain security against a relapse, he says: "During all this time the remedy circulates through the tissues containing the poison, yet fails to eradicate it, so that on omitting the remedy the symptoms again appear." "Surely," says Mr. Lucas, "the facts are far more consistent with the hypothesis that mercury attacks only the effects of the syphilitic virus, which in time exhausts itself upon the tissues, — that, in fact, the action of the drug is to *dis-*
cumber the tissues of the products of a specific inflam-

¹ London Lancet, January 31, 1874, page 159.

² Ziemssen's Encyclopædia, American edition, 1875, vol. iii., p. 275.

mation, and in this way to bring about an apparent and perhaps a permanent cure."

We have a work here suggested which is eminently in the line of the recognized power and influence of mercury, namely, to relieve tissues encumbered with superfluous and obstructive material. The question as to whether this material may be properly designated as "the products of a specific inflammation" is not important for us to raise at this time; or whether it is, strictly speaking, the effect of a virus or not is not now at issue. Of one thing we are certain, and that is, of the power of mercury in hastening metamorphosis of tissue, of bringing about a fatty degeneration, and thus favoring the elimination of its living animal material, normal and abnormal. We know that while tissue change is favored by various conditions — by various medicines — mercury stands at the head of the list as an agent in effecting it. Consequently, if we had the tissues in syphilis encumbered with superfluous and obstructive living material of whatever character, the only way known to science whereby it could be physiologically eliminated would be through a tissue metamorphosis which mercury in various forms is best capable of inducing. In such case the mercury would still remain the remedy par excellence in the treatment of syphilis, — not with the purpose of antidoting a virus which may or may not have produced the difficulty, but with the legitimate and scientific object of adapting the best known means to the accomplishment of an intelligent purpose.

It is hardly necessary for me to remind those of you who have followed this course of lectures from their commencement that the first evidence of syphilitic action in all cases is the accumulation of superfluous living material in the tissues; that the first evidence of its effect, as shown you in repeated clinical instances, is in *encumbering the tissues*, producing in the initial lesion, by simple mechanical pressure caused by its presence, the various interferences with nutrition which result in the different appearances and grades of necrosis which are found characteristic of the initial lesion of syphilis. What has been presented to you clinically has been illustrated and enforced with the results of microscopic examinations of able and distinguished scientists. I propose now to put a practical point upon this view of syphilis, by directing your attention to an uncomplicated initial lesion in this young man, whom you may indicate in your note books as —

CASE XIV. The exposure in this instance was about four weeks ago. On the morning following he noticed a slight chafe just within a somewhat redundant prepuce. This healed promptly under the use of a little simple dressing, and no further attention was paid to it until yesterday, when this little hard lump, about the size of a small pea, was discovered. It is, as you see, quite free from inflammation; not sensitive to the touch; movable in the loose cellular tissue of the prepuce. This, in connection with a suspicious exposure a month ago, and several enlarged and painless glands in either groin, warrants us in considering the nodule, although entirely free from tissue necrosis, an initial lesion of syphilis; we again see here that the process of ulceration is not essential to the initial lesion of syphilis. Having settled this point, the next is the question of treatment.

In the first place, we can assume that there is not the least doubt of the sort of material making up this nodule. The microscope has settled that. It is made up

of cells closely packed in the tissue, so that, with the development of perhaps a few of the best of them into connective tissue, the mass is indurated in a characteristic way. The bulk of the little tumor is composed of cells which are possessed of the capacity to infect with the peculiar syphilitic influence. I have alluded on a previous occasion to the fact that all cells are capable of a sort of infection, an influence which may be exerted favorably or unfavorably when brought into contact with other cells. In this case, the cells have proliferated hastily, and in excess of the necessities of nutrition of the part — hence the accumulation; hence, also, the induration. The effect, then, of contact of the hastily generated cells composing this nodule with healthy white blood cells, such as they would always come into contact with when applied to any living human tissue, is found to be to induce them to a similar hasty proliferation. This, I desire distinctly to be understood as claiming, is all there is of the so-called virus of syphilis. It is an *influence*, and not a material substance. Degenerated cells impressed in some unknown way with the tendency to hasty development. Living too fast, they lose in this way in greater or less degree their formative capacity — their ability to develop into useful tissue. Their natural infective power is increased with their degeneration, and this power or influence is no more a material virus than is the manner by which a vicious human being exerts a pernicious effect upon those with whom he is brought into contact. This position is amply fortified by the results of microscopical and clinical observation. As a natural consequence of the proliferation of such degraded cells, we find them heaped up in the tissues at the point of first introduction. What we term the point of *inoculation*, and the first result capable of clinical appreciation, is a nodule like the one under consideration. We call it the initial lesion of syphilis. If there is anything more of the initial lesion than what I have just told you, it has not been demonstrated, and the claim to it is based upon the purest conjecture. What we have to deal with practically is the accumulated mass of cells composing the initial lesion. This view of the case has been virtually supported by Auspitz, in 1877, and Kölliker, during the last year (1878), who claim to have prevented systemic infection by excision of the initial induration, in some cases, and modified the course of the disease in others. And this fact Auspitz very naturally regards as a proof that "*the initial sclerosis is not a pathological result of a preëxisting general systemic infection, but a starting-point, or an original depot, for the infective material by which syphilis is transmitted.*"

The number of cases reported by Auspitz and Kölliker, some forty in all, do not, however, seem to me to be sufficient to warrant any positive claim to the prevention of general infection by excision of the initial lesion of syphilis. The manner in which infection takes place (any moment after which might carry an infected or degraded cell into a lymph vessel and thus out of reach) would appear to render it, at the least, highly improbable that every infecting cell could be removed by removal of the initial lesion. But the procedure is in complete harmony with our view of the case, and it is what I practice, when agreeable to the patient, and advise in all cases when the initial lesion is situated upon or in loose tissue, as in the present case. Under favorable circumstances, as in the present instance, the operation is a very simple one. Thus:

the indurated mass is raised between the thumb and finger and encircled with a bit of fine silver or malleable iron wire, being careful to include the entire induration. Now, with a narrow, sharp-pointed bistoury, pierce the tissues at the centre, beneath the compressing wire, and cut well under and out, including all the induration and a little of the sound tissue. Then, reversing the knife, the remaining half of the nodule is excised, again also carefully including a little sound tissue, so as to make sure of getting rid of all the indurated material. Three or four interrupted silk sutures secure perfect coaptation of the edges of the wound, and we may confidently expect union by first intention. In about a dozen operations of this sort I have never failed to obtain union by first intention. Under similar conditions the operation is equally applicable to *open* initial lesions. As illustrative of one of the collateral advantages of this mode of treatment, I will cite the case of a gentleman who came to my office some time since, presenting a classical initial lesion on the loose tissue, just behind the fossæ glandis. The induration was as large as a large almond, and the tissue necrosis had excavated a space in it the size of my thumb nail and a quarter of an inch in depth. He had been under local treatment for this nearly three months. His constitutional symptoms had been progressing favorably under a mild mercurial course, but the sore refused to heal. A cable dispatch received from his wife the day previous, announcing her intention to take that day's steamer for home, had occasioned a somewhat sudden determination to solicit a change of treatment. After thoroughly cleansing the lesion and bathing it with a five per cent. solution of carbolic acid, I excised the entire mass, closed the wound with a half dozen sutures, applied a simple carbolated dressing, and sent him home, with directions to keep the recumbent position for three days. At the end of that time I removed the stitches and found union by first intention throughout. By the time of the arrival of the steamer there was not the slightest trace of induration; a faint red line alone indicated the site of the former trouble.

Now, if the syphilitic material were always within reach of the surgeon's knife, the treatment of it would be greatly simplified. Unfortunately, even the cases where we can remove the initial lesion *en masse*, the same degenerated cell material which alone constitutes it has found its way, in the manner previously described to you, into the adjacent lymphatic channels and glands, inevitably destined to gain access to the general system, in quantity greater or less according to the peculiar circumstances and idiosyncrasies of each individual case. Notwithstanding, then, that we may successfully remove the initial lesion of syphilis with the knife, and by this means, as I believe, favorably modify the subsequent course of the disease, it is still necessary to use other measures to eliminate the remaining degenerate cell elements from the system.

With the acceptance of the material views of syphilis as here taught, every manifestation during the active stage of the disease, excepting the syphilitic roseola which has been claimed as a physiological phenomenon, is just as much the result of the mechanical presence of a vitiated cell accumulation as is the induration, and the consequent different grades of necrosis of the initial lesion in its varieties. What we want, then, for the treatment, for reducing in the first place

these enlarged inguinal glands, for instance, is some means or measure capable of breaking down and eliminating this newly-formed germinal material which makes up the enlargement, of hastening the tissue metamorphosis, by which means alone it can be removed from the affected system.

Mercury has been shown to be such an agent, and we administer it here, not in an empirical way as an antidote to a hypothetical virus, but, in accordance with known scientific principles, for the distinct purpose of effecting the disintegration and elimination of the cell elements which alone have been recognized as the source of trouble. Clinical experience has taught us that small doses of mercury administered for a long period is the mode of treatment which has proved most effective and harmless. Scientific deduction from the presenting conditions as shown by the microscope, and the known nature and powers of the proposed remedy, bring us logically and inevitably to the same conclusion. We have, for instance, an excessive living cell material encumbering the tissues, — a material hastily generated, and hence holding its life by a feebleness of tenure than healthy living cell and tissue material. We have also an agent acknowledged to stand first in its power to hasten tissue metamorphosis, and to bring about the fatty degeneration of healthy tissue. Paris, in his *Pharmacologia*, informs us that the characteristic effect of mercurialization upon a healthy person is an excessive flow of saliva of a peculiarly fetid character, and that this factor is due to the decomposing fat which has resulted from the rapid tissue metamorphosis which the mercury has induced. If, then, mercury is recognized as effecting the fatty degeneration and decomposition of *healthy* structures, we may readily accept it as in a higher degree capable of effecting the same result in material of similar nature, but degenerated, and hence with less power of resistance. It is at once seen that such an amount of mercurial as would effect the metamorphosis of the hastily generated and weaker material might fail to affect the normal healthy structures in any appreciable degree. And it must also be equally apparent that such an administration of the agent as would strike just this happy medium would constitute a treatment of the highest excellence. We are led then at once, and logically, to precisely that method of prescribing mercury in the treatment of syphilis which the most experienced and wisest of our profession have been years in arriving at. It only remains to test by actual experience the amount of mercury which can be borne without damage in a given case, to know the most judicious and effective way of curing the disease.

Again, by arriving at this plan of treatment not empirically, but as the legitimate result of scientific deduction, we are not tied to a remedy which experience has shown to be beneficial, or which is warranted to act as a specific, an antidote, or a tonic in the cure of syphilis. It is the principle which guides us, and upon this principle we make legitimate use of other agents which are of known power in inducing tissue metamorphosis, such, for instance, as the iodide of potassium, which by a curious coincidence, second only to mercury in its known power of setting up fatty degeneration, is also second only to it, in the estimation of the highest authorities, in its curative influence on syphilis; and again, when, on account of condition or idiosyncrasy, the system of the patient is found to be wholly intolerant of the use of mercury, or of the iodide of potassium,

other medicines and means which are known to act in bringing about the same result.

It is a significant fact, and one which gives great strength to our position in this matter, that every medicine or mode of treatment, which during the last three centuries has found even temporary favor in the treatment of syphilis, is now recognized as of value, greater or less, in hastening tissue metamorphosis.

Thus the ancient sweating cure by use of decoctions, which was in vogue during the whole of the sixteenth century,¹ and is still esteemed in various countries; and also by baths in conjunction with other remedies, as at the Hot Springs of Arkansas, so justly famed at the present day; the starvation cure and treatment by laxatives, greatly employed by the Portuguese to the exclusion of mercury,—in fact, the treatment chiefly by laxatives, as the Zittman's decoction, is esteemed by the Germans at the present day; then the syphilization cure, of which Professor Böck was the great exponent, and in opposition to this the tartar emetic or so-called tartarization cure, pustules in the former produced by inoculation of unhealthy (syphilitic or chancroidal) pus, and in the latter by the application of the potassio-tartrate of antimony,—all these remedies and measures will at once be recognized as chiefly capable of inducing or hastening fatty metamorphosis, and hence, through the manner explained, to a greater or less degree would promise to be curative in syphilis.

In view of the weight of evidence, then, which has been brought to show the value of the mercurial treatment of syphilis, we shall find it advisable to prescribe it in the case before us. The evidence of syphilitic action is here distinctly present in the glands of the groin. As yet there are no characteristic gland enlargements in the cervical region. While we can scarcely hope to prevent these, we can at least hope to modify favorably any subsequent manifestations of the disease by the judicious use of mercury. Our usual formula in these cases is the one originally recommended by the late Professor Bumstead, namely, two grains of mass hydrarg., with one grain of the desiccated sulphate of iron made into a pill, three to be taken daily, one after each meal. At the end of a week we may find some evidence of the mercurial action in a slight sponginess of the gums. The patient will be directed to note such occurrence, and if before the end of the week, to omit the pills until we see him. Simple nutritious diet and avoidance of spirituous drinks and tobacco are advisable in all cases of syphilis, from the commencement to the termination of the active stage of the disease.

CASE XV. In this young man we have a clear history of a suspicious exposure four months since. He presents an open initial lesion, occupying the central part of the corona glandis; the induration, about the size of a half filbert, is perfectly characteristic; the inguinal glands are distinctly enlarged and painless, also those in the cervical and epitrochan regions. He has here on his forehead, as you can see, and also on his breast and shoulders, very much like Case VII., papules, varying in size and of a coppery color. This is the papular syphilide previously described. As we examine his mouth we find several distinct mucous patches, simply a variety of papule before described. This patient may be said to be in the midst of the active period of syphilis; his treatment, according to his own account, has been very irregular and inefficient. The initial lesion, the gland enlargement, and the eruption

are all well marked, also the mucous patches. It is of common occurrence to find these lesions present together, and yet you will see many cases where in this stage only the gland induration is present, as in Case XVI. Here I show you the initial lesion equally well marked, also the enlargements of the groin and cervical region. I also discover in this case a small mucous patch inside the mouth, near the left labial commissure. Now, in regard to treatment, with the exception of the local measures especially necessary in regard to the mucous patches, we shall prescribe just the same pill as ordered for the first patient, and for reasons that you probably already appreciate, but which I will again call your attention to on another occasion. The local treatment of the open initial lesions is not important, as there appears to be no inflammatory complication in either case; keeping them dry by dusting calomel over them, and protection from friction of the clothes by application of a little lint, is all that will be required. Only when inflamed do they require special attention, rest, poultices, and sedative dressings. The real cause of the persistence of these open lesions is the induration dependent upon the cell accumulation; this we can only hope to reach by our internal remedies. The mucous patches we will touch thoroughly with a solution of nitrate of silver, one drachm to the ounce of distilled water, and reserve the especial reasons for this until our next session.

Original Articles.

THE MEDICO-LEGAL RELATIONS OF ALCOHOLISM: ITS PATHOLOGICAL ASPECTS.¹

BY G. K. SABINE, M. D.

I. ACUTE ALCOHOLIC POISONING.

THE pathological anatomist meets with two classes of cases of alcohol poisoning, the acute and the chronic. The former is not unfrequently the immediate cause of death, the latter rarely so. That fatal cases from acute poisoning are not so rare as might be supposed is shown by the fact mentioned by Taylor, that in four years (1863-1867) thirty-five deaths from this source occurred in England and Wales alone.²

In describing the post-mortem appearances it will be necessary to describe those belonging to the two classes separately. The statements of different observers vary greatly in regard to these appearances, and in many respects are entirely contradictory. This is due, no doubt, to the want of making a proper distinction between the acute and the chronic forms, many symptoms thus being considered as due to acute poisoning which are in reality met with in chronic cases only.

Within a short time the effects of the different kinds of alcohol in poisonous doses upon dogs has been thoroughly investigated by Dujardin-Beaumetz and Audigé. These investigations were carried on by means of more than two hundred and fifty experiments upon as many different animals, and the general conclusions drawn from them were as follows:—

"In animals which succumb to acute alcoholic poisoning anatomical lesions are constantly found, which vary in intensity with the strength of the alcohol. These lesions occur especially in (1) the digestive organs; (2)

¹ Read at the annual meeting of the Massachusetts Medico-Legal Society, June 8, 1880.

² H. C. Wood, Therapeutics, Materia Medica, and Toxicology.

¹ Böttcher, Ziemssen's Encyc., vol. iii., p. 279.

the circulatory and respiratory organs; (3) the nervous system; and (4) the kidneys.

"(1.) *Lesions of the Digestive Organs.* — In regard to the stomach the changes are less marked when the alcohol has been administered subcutaneously, and then only a slight redness towards the pyloric extremity is perceptible. But when the alcohol is administered by the œsophagus the lesion is more marked, and, in certain cases, the mucous membrane is more or less softened; the effects depend on the strength of the alcohol, being much more marked when the alcohol is concentrated, and therefore more caustic.

"The alteration in the small intestine is more constant and more marked when the alcohol has been administered hypodermically; it exists more especially in the upper part of the intestine, but when death is protracted it occurs throughout its whole length. The intestinal mucous membrane is then softened, its surface of a dark-red color, and it presents, in the majority of cases, more or less abundant hæmorrhages. These appearances may be accounted for by the elimination of the alcohols by the intestinal glands.

"In the large intestine a hæmorrhagic appearance is met with, especially towards its inferior extremity and on the longitudinal bands.

"The liver is the gland most seriously affected in acute alcoholic poisoning; this organ, always very quickly congested, is soft throughout and friable; it can be torn between the fingers and the hepatic cells may be destroyed in a great measure. The spleen is also engorged with blood and its tissue softened. Finally, in a certain number of cases, the head of the pancreas is found to share in the congestion presented by the duodenum.

"(2.) *Lesions of the Circulatory and Respiratory Organs.* — In acute alcoholic poisoning, the blood is essentially altered; it is blackish and forms more or less abundant clots in the heart. The pulmonary lesions are characterized by a distention of the vascular system. This congestion is frequently more marked when the alcohol has been introduced by the stomach, and in these cases there are ecchymoses at the base of the lungs.

"(3.) *Lesions of the Nervous System.* — Lesions of the cerebro-spinal axis are characterized by considerable venous congestion of the meninges. In the brain the veins and the sinuses are engorged with blood and the gray matter is also somewhat congested. These cerebral lesions are more pronounced the longer the comatose period continues.

"(4.) *Lesions of the Kidneys.* — These lesions are but slightly marked when caused by fermented alcohol, but when due to œnanthyllic and caprylic alcohol are more pronounced. But it is above all in acute glycerine poisoning that they attain their greatest intensity; there exists then not only a congestion of the organs, but a certain quantity of blood is found in the bladder."

Lallemand, Perrin, and Duroy (*Alcohol et des Anesthésiques*) state that "marked anatomical changes are found in animals which have died from the administration of alcohol. The mucous membrane of the stomach and of the upper part of the small intestine is inflamed, sometimes quite violently. The liver is much congested. The lungs show no signs of asphyxia or even real congestion. The right side of the heart and the large veins are filled with very liquid, dark blood. The meninges are engorged with blood. The alcohol is diffused through all the tissues and se-

cretions, but the brain, cord, and liver contain a much larger proportion than any of the other tissues."

So much for poisoning in the lower animals.

POISONING IN MAN.

On inspection, the dependent portions of the body are found discolored by hypostatic congestion. It has been claimed by some that decomposition sets in very slowly, but this is denied by others.

"The general appearances resemble more or less closely those of asphyxia; the right side of the heart, the pulmonary arteries, and the systemic veins being loaded with blood, while the left cavities and the arterial system are comparatively empty, the blood which they do contain being dark.¹ The sinuses and the whole venous system of the brain are turgid with dark blood."²

The blood is very fluid or imperfectly coagulated and of a dark color.³

The mucous membrane of the stomach is usually found very much injected, as indicated by either a bright⁴ or deep red⁵ color, covered with coagulated mucus (albumen),⁶ and sometimes ecchymosed.⁷ The congestion usually extends both into the œsophagus and into the small intestine.⁸

The action of strong alcoholic liquid on the mucous membrane of the stomach so closely resembles the effects produced by arsenic and other irritants as easily to give rise to the suspicion of mineral irritant poisoning.⁹

The amount of alteration in the gastric mucous membrane will vary, of course, with the quantity of alcohol taken, its degree of concentration, and the amount of food, etc., in the stomach.

A very few cases have been reported in which the mucous coat has been found in a sloughing condition. According to Baer frequently no lesions are perceptible. In such cases the fluid has been taken very much diluted.

Alcohol is found to be present in the contents of the stomach in variable quantity or entirely absent¹⁰ from the same, according to the quantity ingested, the rapidity of absorption, and the time which has elapsed between the last potations and the death of the individual.

The length of time that portions of it may remain in the stomach is consequently very uncertain. Taylor mentions a case in which a pint of spirits was taken and a fatal effect produced in eight hours, but no traces of it could be detected in the stomach. That it may entirely disappear from the stomach long before it is eliminated from the other organs is proven by a number of cases of more or less chronic poisoning related by Magnan. In one of these three days and six hours had been passed without excess in drink; the liver and

¹ Carpenter on Alcohol.

² Woodman and Tidy, *Forensic Medicine and Toxicology*; Carpenter on Alcohol.

³ Casper, *Forensic Medicine*, vol. ii.

⁴ Taylor on Poisons; Christison on Poisons; Birch-Hirschfeld, *Lehrbuch der Pathologischen Anatomie*.

⁵ Wood, *Therapeutics, Materia Medica, and Toxicology*; John M. Reese, *Manual of Toxicology*; Oesterlin, *Heilmittellehre*; Taylor on Poisons; Woodman and Tidy, *Forensic Medicine*; Birch-Hirschfeld, *Lehrbuch der Pathologischen Anatomie*.

⁶ Oesterlin, *Heilmittellehre*.

⁷ Wood, *Therapeutics, Materia Medica, and Toxicology*; Oesterlin, *Heilmittellehre*; Birch-Hirschfeld, *Lehrbuch der Pathologischen Anatomie*.

⁸ Woodman and Tidy, *Forensic Medicine*.

⁹ Taylor on Poisons.

¹⁰ Oesterlin, *Heilmittellehre*.

brain contained alcohol, but none was found in the blood or other organs. In another patient who had died fifty hours after his last potation, alcohol was found in the liver, brain, and blood in very appreciable quantity; the lung also contained traces.

When present, as it probably almost always is,¹ at the time of death in cases of acute poisoning, the contents of the stomach will of course possess the odor of the liquor ingested, unless masked by some other substance present.

The mucous membrane of the respiratory tract exhibits a widely spread and intense injection of the blood-vessels;² the bronchi are filled with frothy mucus;³ more or less hyperæmia of the lungs may always be expected;⁴ they are very often found in a state of œdema;⁵ still more frequently hypostases and hepatisation are discovered in their posterior and inferior portions.⁶

The liver, kidneys, and spleen are usually found loaded with venous blood.⁶

The presence of alcohol may be detected in the liver even after it has entirely disappeared from the stomach and all the other organs with the exception of the brain, for it is these two organs which show the greatest affinity for it.⁷

Nearly all authorities state that the veins of the cerebrum and cerebellum together with their membranes are engorged with blood.⁸ According to Birch-Hirschfeld, however, the substance of the brain itself is frequently found anæmic and œdematous.

According to some an effusion of serum⁹ is frequently found within the ventricles or beneath the arachnoid, and according to many others an effusion of blood¹⁰ is very apt to take place, especially in the latter locality. It is probably somewhat doubtful how frequently these effusions take place in the most acute cases. The statement that hæmorrhagic apoplexy occurs quite constantly seems to be founded on a very limited number of cases.

Through the kindness of Dr. Harris and Dr. Amory, of this society, I have been enabled to obtain the autopsy records of two cases of undoubted acute alcohol poisoning, which fell into their hands for examination, and Dr. Wood, of the Medical School, has kindly furnished me with an account of the result of the chemical analyses in the same cases. Dr. Draper has also published an account of the examination of a more or less chronic case in the Transactions of this society, volume i., No. 1.

Dr. Harris's Case.—Two women of bad character were induced in the evening by sailors to go on board a vessel lying at one of the wharves, where they drank a large quantity of Spanish rum, known as aguadiente.

¹ Christison on Poisons.

² Boehm, Ziemssen.

³ Carpenter on Alcohol.

⁴ John M. Reese, Manual of Toxicology; Casper's Forensic Medicine; Woodman and Tidy, Forensic Medicine and Toxicology; Wharton and Stillé's Medical Jurisprudence; Lallemand, Perrin, et Duroy, Alcohol et des Anesthésiques.

⁵ Boehm, Ziemssen.

⁶ Carpenter on Alcohol.

⁷ John M. Reese, Manual of Toxicology.

⁸ Oesterlin, Heilmittellehre; John M. Reese, Manual of Toxicology; Wharton and Stillé's Medical Jurisprudence, Part I.; Casper's Forensic Medicine; Taylor, Treatise on Poisons; Birch-Hirschfeld, Lehrbuch der Pathologischen Anatomie; Lallemand, Perrin, et Duroy, Alcohol et des Anesthésiques.

⁹ Oesterlin, Heilmittellehre; Carpenter on Alcohol; Taylor on Poisons; Manual of Toxicology, John M. Reese.

¹⁰ Wharton and Stillé's Medical Jurisprudence; Tardieu, Étude sur l'Enpoisonnement; Taylor on Poisons; Woodman and Tidy, Forensic Medicine and Toxicology; Christison, Treatise on Poisons.

At two in the morning one of the women was found dead.

Autopsy fourteen hours after death.

Rigor mortis marked. Lividity of dependent portions of the body. An abrasion of the mucous membrane in the lower part of the vagina, one by one and one half inches was discovered. No other marks of violence.

Section. The lungs were bound to chest walls, especially posteriorly, by not very firm adhesions. The heart presented no very unusual appearances except that the muscle was a little lighter colored than usual. The abdomen contained about one ounce of dark-colored fluid. The lungs were slightly congested, and the bronchi contained a little frothy mucus.

The kidneys were firm, quite dark in color, with the pyramids very strongly marked. The internal surface of the stomach was intensely congested, the contents (about two ounces) smelling strongly of rum. The brain was of normal consistency, the vessels of the pia mater not overloaded; the puncta cruenta were, however, strongly marked. The uterus contained free, dark blood, and in the right ovary was a corpus luteum of menstruation. The intestines and bladder presented nothing unusual. The spleen presented appearances of old inflammation. The liver, brain, stomach and contents were reserved for chemical analysis, the kidneys, part of heart and uterus for microscopical examination.

Dr. Wood isolated from the contents of the stomach one half cc. of alcohol, 0.825 specific gravity, which contains eighty-nine per cent. of absolute alcohol, and from one half of the brain two cc. of alcohol of the same strength. This corresponds to four cc. in the whole brain, and since eighty-nine per cent. is about double the strength of ordinary spirituous liquors, the amount found in the brain corresponds to about eight cc. of ordinary liquor.

Dr. Amory's Case.—A man about forty-two years old left home in the company of a friend. Two hours later, after visiting a number of places where liquor was sold, and drinking freely, he was brought home in a comatose condition, and died shortly after.

Autopsy seven hours after death. Body well developed. Face livid. A superficial cut just beneath left orbital ridge, from which a small quantity of blood was slowly oozing. Thick layer of fat under the skin. The deceased wore a truss for double inguinal hernia. Left inguinal canal open, the right closed. Diaphragm on the right side opposite the fourth rib and opposite the fifth on the left. Pigmentary deposits in both lungs. Old pleuritic adhesions on posterior surface of right lung chiefly confined to the lower lobe. Pericardium contained about one half ounce of serum. Left ventricle contracted, right flaccid. Mitral valve admitted two fingers with difficulty, tricuspid three readily. No clots in heart or large vessels. The posterior portion of the lower lobe of right lung engorged with blood, but pressure caused crepitation. A small cyst about the size of a pea on the periphery of right kidney. The external surface of stomach considerably congested the internal intensely reddened, showing the action of some irritant substance. The rugæ quite prominent. The contents consisted of fragments of meat, potatoes, and carrots, and about one and a half pints (by estimate) of fluid smelling of alcohol. No clot found in any part of body or blood-vessels. Vessels of pia mater moderately filled with blood.

Dr. Wood isolated from the contents of the stomach 33½ cc. of eighty-nine per cent. alcohol, and about one half cc. of the same strength from one half of the brain.

The medical examiner meets with another class of cases much more frequently than with the preceding. These are cases in which the subjects have been addicted for a long time, during life, to alcoholic excess and have died during a debauch, the immediate cause of death being either some exposure to cold, some chronic disease caused by the long-continued use of alcohol, or the continued dose of alcohol in a system already very much weakened by its excessive use.

In these cases one is apt to meet with certain appearances which belong to cases of acute poisoning, if alcohol has been recently taken, such as redness of the gastric mucous membrane, fluidity of the blood, etc., and either few or many of the signs of chronic poisoning may also be present, but no one of them is constant or pathognomonic.

RECENT PROGRESS IN URINARY SURGERY.

BY THOMAS B. CURTIS, M. D.

LITHOLAPAXY.

THE new operation for stone in the bladder, called by its inventor *litholapaxy*, known also as "rapid lithotritry with evacuation," or simply as "Bigelow's operation for stone," has lately been performed many times, both in this country and in England, with more success than its most enthusiastic advocates could have anticipated. Many cases have been reported during the last twelvemonth, not only by specialists in urinary surgery, but also by surgeons in general practice, and several important papers¹ have been published by recognized authorities, setting forth their experience and opinions. We propose to place before our readers a synopsis of the fresh testimony which has accrued since our last report upon this subject.

With regard, in the first place, to the originality of the discovery that a medium-sized stone, or even a stone of large size, could safely be crushed and removed in one sitting, not only without the patient being killed, but actually with less damage and danger than attended any other operation previously known, — with regard to this point it is now distinctly recognized without contestation that litholapaxy is a new opera-

tion, differing entirely and fundamentally from the old dilatory, would-be cautious, many-sitting method. The only resemblance between the old and the new lithotritry lies in the fact that lithotrites, catheters, and washing-bottles constitute the armamentarium in both methods. These instruments, however, have all been greatly modified and improved, the principal and essential changes comprising, first, an enlarged catheter, and, secondly, a more powerful rubber bulb, whereby a larger and stronger stream of water, carrying fragments, can be drawn from the bladder. The instruments, although greatly improved and rendered much more efficient than before, have undergone less modification, perhaps, than the manner and object of their use. Teevan admits that "even if we had possessed Bigelow's perfect instruments we should not have dared to perform his operation if he had not shown us the great amount of instrumental interference the bladder will tolerate if we only take care to remove all the fragments at once. This is the grand point, and to Bigelow solely belongs the great merit of the discovery." As now executed, with the design of accomplishing, if possible, the entire removal of a stone in one operation, the new lithotritry differs completely from the old. "The principles upon which it is founded," says Teevan, "are as widely opposed to those upon which ordinary lithotritry was established as are the two poles to each other. The old method was sometimes spread over a period of months; the new one is the work of a certain number of minutes, and in this respect resembles lithotomy, the advocates of which operation used to urge that one of its great advantages was that, unlike lithotritry, it rid the patient at once of his trouble." Dr. E. L. Keyes is equally explicit upon this point. "It is therefore," he says, "wide of the mark to imagine that Professor Bigelow's operation is a modification of any old procedure. The operation is a totally new conception, a new design which disclosed itself to its discoverer, a design which may be executed equally well with different instruments from those with which it was first performed. . . . Its success does not depend upon the instrument, but upon the method; the method is the operation. The method is prompt and entire fragmentation of the stone, immediate and if possible entire evacuation of the debris. No matter by what safe means through the urethra these ends are accomplished, litholapaxy, in Bigelow's sense, is performed."

The apparatus for crushing and evacuating the stone is constantly being modified, both by the inventor of the method and by others. The various changes, however, which have been made since Dr. Bigelow first made his method known have all related to unessential details, in regard to which every one is free to follow his own natural bent in the direction of simplicity or complexity. However great the diversity of instruments from which the lithotritist can now choose, all have certain essential characteristics in common. The lithotrite, it is agreed, often needs to be larger and stronger than was formerly necessary; and it must be so constructed as to be incapable of becoming clogged or impacted to any considerable extent. The evacuating tubes must be as large in calibre as can safely be introduced through the urethra. The rubber bottle must be stout, so as to exert a sufficiently powerful suction; it must be securely trapped, so as to retain fragments; and it must be tight at all the joints, so as neither to leak nor admit air. Sir Henry Thompson's

¹ W. F. Teevan. A Case. The Lancet, October 25, 1879, page 611.

R. Harrison. A Case. The Lancet, October 25, 1879, page 614.

W. J. Coulson. A Case. The Lancet, November 8, 1879, page 687.

G. Buckstone Browne. Three Cases. The Lancet, December 13, 1879, page 687.

Thomas Smith. Clinical Lecture and Case. The Lancet, January 10, 1880, page 43.

Sir Henry Thompson. Clinical Lecture. The Lancet, January 17, 1880, page 79.

Berkeley Hill. New Washing Bottle described. The Lancet, January 24, 1880, page 184.

R. F. Weir. On Litholapaxy. American Journal of the Medical Sciences, January, 1880, page 130.

W. F. Teevan. Lettsomian Lecture. The Lancet, July 31, 1880, page 162.

E. L. Keyes. Rapid Lithotritry, with Evacuation. American Journal of the Medical Sciences, April, 1880, page 369.

E. L. Keyes. Litholapaxy. Annals of the Anatomical and Surgical Society, June, 1880, page 209.

W. W. Greene. Ten Cases. Boston Medical and Surgical Journal, July 15, 1880, page 51.

Sir Henry Thompson. Practical Lithotomy and Lithotritry. Third Edition. 1880. Page 183.

new bottle, which he calls a modification of the aspirator of Clover, certainly works admirably well in his hands; but most surgeons prefer to have a flexible tube interposed between the heavy bottle and the catheter. Sir Henry Thompson discards this flexible connection (which Teevan considers the great improvement in Bigelow's aspirator above all others), on the ground that the route to be traversed by the fragments is lengthened by this addition. Experience shows, however, that the efficiency of the aspirator is not diminished thereby in any appreciable degree, while the manipulation of the apparatus is rendered easier and less fatiguing to the operator as well as safer for the patient. Sir Henry Thompson has not yet wholly adopted the single-sitting method, inasmuch as he limits the duration of an operation to thirty minutes, and devotes more than one sitting to the removal of the larger stones. He is therefore not yet quite prepared to appreciate the relief afforded in a prolonged sitting by the short flexible tube. One of Dr. Bigelow's latest aspirators is provided with double stop-cocks at the junction of the catheter with the flexible tube issuing from the rubber bulb, whereby all leakage is prevented during coupling and uncoupling. It has also a long flexible vent-pipe, by which air can be expelled and water drawn in when desired. Berkeley Hill's bottle is identically that of Clover, somewhat enlarged, slightly altered in shape, and with a stouter rubber bulb.

The evacuating tubes successfully used have varied somewhat in shape and size. Dr. Bigelow much prefers straight tubes, both for facility of introduction and for efficiency in evacuation. Coulson and Weir agree with him in regard to this matter. In size Dr. Bigelow's tubes are as large in every case as can safely be introduced, and their calibre generally ranges between 28 and 31 (French). Sir Henry Thompson uses the largest tube the urethra will admit. He advises tubes varying from 26 to 28, but adds that if a larger one can be introduced without violence so much the better. He states, however, that for small stones, such as are most common in practice, the largest instruments, lithotrites and tubes, are not necessary. Keyes has generally used curved tubes rather than straight ones. He finds that they "render the fragments less well, but often pass more easily." The size of the tube to be used in the healthy urethra should, he thinks, be adapted to the calibre of the second point of physiological narrowing at about the third inch, which, unlike the meatus, ought not to be cut. With regard to the apparatus by which litholapaxy may be performed, Keyes shows that the method is not to be considered as necessarily identified with the particular instruments originally used by the inventor. "Professor Bigelow," he says, "naturally prefers his own instruments for its execution, but they are not essential. With or without an anæsthetic any lithotrite may be used, any evacuating catheter, any washing bottle, and the operation remains the same, providing the aim of the operator is to relieve the bladder entirely of debris by aspiration without taking into account the time consumed."

The results which have been recorded thus far have been surprisingly good. In Keyes's paper, published last April, one hundred and seven cases were got together, among which were six deaths. To these cases may be added four recent operations by Sir Henry Thompson, one by Teevan, one by Harrison, and a fine series of eight operations (in which the average weight of the debris amounted to four hundred and thirty-two

grains) by Dr. W. W. Greene, all without a death. Two successful cases by Dr. C. B. Porter (one unpublished), and two additional unpublished cases by the author of this paper, bring the total up to one hundred and twenty-five, with only six deaths, making a mortality of 4.8 per cent., or one death in twenty-one cases. These data are, perhaps, not yet sufficiently numerous to allow the value of the new method to be accurately determined, but they appear very full of promise, especially when the size of many of the stones successfully dealt with is considered. By way of comparison it may be recalled that Sir Henry Thompson's "analysis of five hundred operations for stone in the bladder of the male adult" yielded a mortality of one death in every thirteen cases of the old lithotrity, and one death in every two and three fourths lithotomies in cases unfit for the crushing operation.

Not only has the success of the new operation been remarkable, as shown in the low rate of mortality yielded by the foregoing statistics, but there is reason to believe that the subsequent condition of patients so treated is likely to be better than was commonly the case after treatment by the old method, when a successful course of lithotrity was so often succeeded by protracted or incurable chronic cystitis, with phosphatic deposits and recurrence of calculus. Sir Henry Thompson expresses a belief that "if the principle of crushing and removing all the calculus at one operation, when practicable without excess of manipulation, and always performed with delicacy and care, be adopted, the best guarantee is obtained against the existence of chronic cystitis afterwards."

After thus exhibiting the success of the new method, it is proper to notice what is said of its difficulties and dangers. Almost all those who have earned by personal experience a right to pronounce judgment agree that the operation is not an easy one, and that it should not be lightly undertaken by surgeons inexperienced in lithotrity. Sir Henry Thompson says that the extra work to be performed at a single sitting especially demands a practiced hand to do it safely, the operation, if the stone is hard and weighs four hundred or five hundred grains, requiring more skill and experience to accomplish it safely and successfully than the old operation by several sittings. Keyes asserts that the general surgeon is not competent to perform rapid lithotrity well until he has first learned how to manipulate the bladder carefully by a training at slow lithotrity. "The operation," adds Keyes, "promises to become general among surgeons, and in this protest that ordinary surgical training does not fit a man to operate in the bladder under ether I think most lithotritists will join." Weir also is of the opinion that litholapaxy needs more skill than is required in lithotrity, inasmuch as the danger of mechanical violence to the bladder is some ten or fifteen times greater than in an ordinary sitting of lithotrity. None but those, he adds, who have had experience in lithotrity, or who have familiarized themselves on the cadaver beforehand with all the required instrumental manipulations, should undertake the operation of litholapaxy. Cadge's opinion is that "the new plan should not be attempted by any one who has not already acquired by plentiful experience on the living, and by repeated experiments on the dead body, all the little knacks and tricks which go to make up successful lithotrity." Gouley and Green testify to the same effect.

The danger attending the operation consists mainly

in the liability to injury of the deep urethra during the repeated passage to and fro of large instruments distending the urethra, passing with difficulty, and acting with a powerful leverage. Injury to the bladder is less likely to occur, and is better borne. "The bladder," says Keyes, "is very patient when left empty after the injury has been inflicted. The deep urethra, on the other hand, resents violence much more positively. It is wise to inflict no injury in either locality, but if choice must be made, the deep urethra calls for the greater forbearance."

A question in regard to which differences of opinion and practice exist relates to the limit of time to be occupied in a single sitting. Dr. Bigelow's practice and precept have been to operate without much regard to time, with the object of completing the evacuation, if possible, in one sitting. In most cases the greater part of the stone is removed in a comparatively short time, perhaps in a few minutes; the remainder of the operation is devoted to seeking, chasing, and securing a few small, last fragments; and, finally, to a careful exploration of the bladder, whereby the completion of the undertaking is verified. Sir Henry Thompson, on the other hand, prefers to shorten the duration of the operation at the risk of leaving fragments requiring an additional sitting. Thus, in one case, where the stone weighed 521 grains, he first removed 329 grains in one sitting, lasting twenty-five minutes, and three days later, in a second sitting of thirteen minutes, he removed the remainder, weighing 192 grains. In another case, 308 grains were evacuated in eighteen minutes, and three days later, 15 grains more were removed. In yet another case, a first sitting yielded 158 grains, and a second 29 grains, a day or two after. Keyes has adopted no fixed limit, but proposes to operate as promptly as possible, and in a general way to accept one hour as the limit at which the sitting should close. If the patient's condition is good, however, and the ether is well borne, he thinks it would be better to prolong the sitting another half-hour, rather than leave angular fragments of any considerable size in the bladder. This is evidently a point in regard to which each operator must, in each case, use his best judgment.

Lastly comes the question of indications and counter-indications, and here we find that the introduction of litholapaxy has revolutionized the operative treatment of vesical calculus in adults of both sexes. Not only is the old "many-sitting" lithotripsy henceforth entirely superseded,—for no surgeon familiar with the new method could now think without repugnance of leaving the fragments of a partly crushed stone in the bladder,—but the domain of lithotomy is invaded and largely curtailed. With regard to the limits of size within which calculi may now safely be dealt with by lithotripsy, estimates vary somewhat. Teevan says that "in the present state of our knowledge and experience, enlarged and improved as it is by the introduction of Bigelow's operation, it may be said that any stone up to two inches in diameter may be crushed." In corroboration of this statement several striking cases may be cited. Thus, Thomas Smith in one case removed in a first sitting three ounces of stone, and in a second sitting, six days later, another ounce, the entire stone when removed weighing 1920 grains (124.4 grammes), or more than four ounces; four days after the second sitting the patient was discharged. Dr. C. B. Porter removed in three sittings, separated by intervals of

four and five days, 1802 grains (116.7 grammes), the patient being discharged, well, five days after the last sitting. Dr. Greene evacuated from an adult female bladder 1015 grains (65.7 grammes) of stone; the patient recovered without an unpleasant symptom. Such are the resources afforded by the new method in favorable, uncomplicated cases.

When complications exist, additional difficulties and dangers are encountered. *Urethral stricture* is by no means an insuperable obstacle to litholapaxy, as the canal can be enlarged by various means so as to admit a tube sufficing for the evacuation of a small or medium-sized stone. Sir Henry Thompson advises gradual dilatation of the stricture by means of a tied-in catheter, after which a tube, No. 11 (English), may be used to remove the stone carefully reduced to a fine *débris*. Keyes advises a preliminary treatment of the stricture by dilatation or urethrotomy. *Hypertrophy of the prostate* rarely impedes the performance of the new operation, and the inability to empty the bladder, which is characteristic of this disease, renders indispensable the artificial evacuation of the fragments by aspiration. When *renal disease* (interstitial, suppurative nephritis, chronic pyelitis, pyonephrosis, "surgical kidney") exists as a complication with vesical calculus of long standing, manifesting itself by a liability to severe constitutional disturbance (rigors, severe urethral fever, diminution or suppression of urine) from sources of local irritation, the conditions are in the highest degree unfavorable for any method of operative treatment. In such cases, where formerly Sir Henry Thompson used to advise either a cautious performance of lithotripsy with short sittings, separated by long intervals for recuperation,¹ or else an immediate resort to lithotomy,² as the alternatives between which the surgeon could choose, unless, indeed, the conditions appeared so hopeless as to preclude all attempts at operative treatment; in cases so complicated by renal disease, he now recommends dealing with the stone in one operation by the new method of lithotripsy with evacuation.³ According to Teevan, "no kind or amount of renal disease forbids Bigelow's operation if the patient be physically fit for it."

NEPHRECTOMY.

A case of nephrectomy by abdominal incision was recently reported to the Royal Medical and Chirurgical Society by Mr. A. E. Barker.⁴ His patient, an unmarried female aged twenty-one years, had suffered for several months from severe lumbar pain and profuse hæmaturia. The diagnosis was movable kidney affected with encephaloid cancer. An operation resembling ovariectomy in almost every respect was performed under strict antiseptic precautions. The pedicle was transfixed and ligatured in two portions with silk, the ureter being tied separately. There was very little hæmorrhage and the subsequent shock was slight. Thirty-two hours after the operation, the condition of the patient till then having been promising, prostration and dyspnoea set in; she died within forty-eight hours. The autopsy showed thrombosis of the pulmonary artery, as the only cause of death, the condition of the abdominal cavity being found very satisfactory.

¹ Practical Lithotomy and Lithotripsy, second edition, 1871, page 242.

² Ibid., page 280.

³ Ibid., third edition, 1880, pages 199 and 279.

⁴ The Lancet, March 13, 1880, page 402.

Mr. Barker's report of his case is accompanied by a careful historical review and statistical analysis of all the cases of nephrectomy hitherto recorded. He had collected from all quarters twenty-eight cases in which, for various reasons, removal of the kidney had been performed or attempted. There were six cases of mistaken diagnosis, of which five terminated fatally. In two cases of neoplasms the operation could not be completed. Of the remaining twenty nephrectomies, deliberately undertaken and carried out, the motives and results were as follows: two operations were for fistula of the ureter, both successful; two for acute renal pain, one recovery, one death; two for calculous pyelitis, both fatal; three for injury of the kidney, two complete recoveries, one death; six for acutely painful movable kidney, with four complete recoveries and two deaths; four for neoplasms, with three recoveries and one death; and one for pyonephrosis, perfectly successful. Of the whole twenty-eight cases there were fourteen recoveries and fourteen deaths; but excluding the six cases of erroneous diagnosis, there were thirteen recoveries and nine deaths, two of the latter being desperate cases in which the operation could not be completed. In all the successful cases, recovery was complete, except as regards the possible recurrence of neoplasms. Of the thirteen successful operations, nine were lumbar, four ventral sections. Of the nine fatal cases, five were lumbar, four ventral. From his examination of the records, Mr. Barker was convinced that nephrectomy was not attended by any peculiar risks apart from those accompanying most grave operations, and that in proper cases it was a suitable and useful procedure. He thought that the lumbar incision was best suited for the removal of healthy or comparatively healthy kidneys, for cases where there had been much perinephritic inflammation, for pyonephrosis and hydronephrosis, and perhaps for the smaller neoplasms, especially if fixed. On the other hand, the ventral incision appeared best suited for the removal of movable kidneys, healthy or diseased, especially when the seat of a voluminous neoplasm; also for ordinary cysts not fixed by inflammation. The difficulty in the case of neoplasms of removing the diseased lymphatic glands about the hilus of the kidney would be much less with a ventral than with a lumbar operation.

In the discussion which followed the reading of Mr. Barker's paper, Mr. Knowsley Thornton alluded to the case of a girl seven years old with hydronephrosis. Six pints of fluid had been evacuated by aspiration. The cyst was removed by laparotomy with an incision extending from one inch above the umbilicus to an inch and a half below it. After laying open the peritoneal capsule, the cyst was shelled out, and its pedicle brought into view. The renal artery and vein were tied separately, about an inch from the aorta, and the whole pedicle was secured by three ligatures. The child was up on the eleventh day. Mr. Thornton thought that in cases of hydronephrosis abdominal section was to be preferred to the lumbar operation advocated by Mr. Barker.

Mr. Clement Lucas was of the opinion that extirpation of the kidney by either method was perfectly justifiable; it had been shown that one kidney could be removed successfully. The choice of the operation would depend on the size of the mass to be removed. The chief dangers were from secondary hæmorrhage and thrombosis.

Mr. Holmes called attention to the fact that the autopsy in Mr. Barker's case showed that the cancer was

already generalized; and questioned whether so formidable an operation was indicated under such circumstances.

Prof. A. Martin's case of nephrectomy¹ for encephaloid disease of the kidney was one of the cases passed in review by Mr. Barker. The patient, a female, aged fifty-three, suffered from retention of urine, hæmaturia, and pain in the right renal region, where a movable, non-adherent tumor, dull on percussion, was found. Antiseptic laparotomy was performed on December 10, 1878. The tumor was of the size of two fists. The pedicle was tied with nine silk ligatures. To remove the organ, which weighed seven hundred and eighty-four grammes, the incision had to be carried two inches above the umbilicus. Convalescence proceeded with very little disturbance. On the twelfth day the highest temperature (100.4° F.) was recorded. On the eighth day the patient got up, and on the seventeenth day she went home. Six months later she was still well. Mr. Barker, however, alluding in his paper to this case, said that Professor Martin had lately informed him that there were then (March, 1880) some indications of recurrence taking place.

Czerny² has reported two nephrectomies. In the first case, the patient, a man aged fifty years, had a large abdominal tumor, apparently involving the left kidney. Laparotomy being performed, the tumor was found occupying the meso-colon; it was very vascular and soft. A profuse hæmorrhage occurred, which was arrested by ligature of the aorta. Death, preceded by paraplegia, occurred in six hours. At the autopsy a tear of the renal artery was found. In Czerny's second case, a female, thirty-two years of age, had pyonephrosis and perinephritis of the right side, with renal fistula. The fistulous tract was slit up, and to gain more room a portion of the eleventh rib, three and a half inches long, was resected. The hand was then introduced, and the kidney was enucleated, the pedicle being tied with silk and an elastic ligature. The wound was left partly open, and plugged with thymolized gauze. The subsequent course of the case was satisfactory; at the end of four months the patient had recovered her strength, though the wound had not yet wholly closed.

Zweifel³ (of Erlangen) has reported a successful case of removal of the kidney through a lumbar incision, after the method of Simon, performed on account of an incurable fistulous communication between the left ureter and the uterus. Great difficulty was experienced in separating the kidney from its surroundings, and there was considerable hæmorrhage. Four months after the operation the patient was discharged, the recovery being complete.

RETENTION OF URINE SUCCEEDING INJURIES.

A temporary retention of urine, succeeding operations in the ano-perineal region, such as the ligature of piles or the incision of anal fistula, is a common occurrence, familiar to all surgeons. Dartigue, a pupil of Professor Verneuil, of Paris, has reported several cases in which retention of urine followed various operations in regions remote from the bladder and urethra, such as amputation of a breast, or the rupture of au

¹ Berlin. klinische Wochenschrift, June 2 and 9, 1879, pages 317 and 338.

² Centralblatt für Chirurgie, 1879, page 45. Revue des Sciences médicales, July 15, 1880, page 293.

³ Archiv für Gynäkologie, vol. xv., Part I., p. 1. Revue des Sciences médicales, July 15, 1880, page 293.

anched elbow. Sabourin¹ reports five cases in which retention supervened as a complication of various accidental injuries, and adds some remarks upon the nature of the disturbance. The injuries which in his cases were followed by temporary retention of urine were the following: a supra-condyloid fracture of the femur; a contusion of the rim of the pelvis; a fracture of the ribs; a contusion of the hip; a fracture of the leg. In all these cases retention of urine occurred soon after the infliction of the injury, and lasted a day or two. In one case it lasted five days.

Temporary retention occurring under such circumstances has been attributed to a reflex spasm of the vesical sphincter. Sabourin, however, taking into consideration the absence of any obstacle to catheterism and the feebleness of the stream issuing from the catheter, infers that the inability of the bladder to evacuate its contents is due to a temporary paralysis of the nervous centre from which the muscular fibres of the bladder derive their stimulus.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

CASES OF ACUTE PNEUMONIA IN THE SERVICE OF DR. MINOT.

REPORTED BY WILLIAM N. BULLARD, M. D.

CASE I. Michael M., an Irish laborer, forty-six years old, and living in Taunton, entered the hospital February 28, 1880. He was a strong, vigorous-looking man, and had always been well until the present illness. He was not accustomed to use alcoholic liquors. Five days previous to entrance he had had a severe rigor, followed by the usual symptoms of high temperature, and two days afterwards severe pain in the left side on long breath. No cough had been noticed until the day preceding entrance. On entrance he was flushed and cyanotic, and lay in a stupid condition. The skin was lemon-colored all over the body, and there was a slight tinge of yellow in the conjunctivæ. The expectoration was moderate in amount, thick, viscid, and of a brilliant grass-green color. The tongue had a thick green coat. Examination of thorax showed dullness, bronchial respiration and bronchophony over the lower lobe of the left lung. The evening temperature was 102.8° F.; pulse 97; respiration 40. The patient was placed on milk diet, and ordered ten minims of compound tincture of ipecacuanha every four hours during the night, as required.

February 29th. On examination of the urine a trace of bile pigment was detected, and there was the usual evidence of passive renal congestion.

For several days after entrance the patient lay in a drowsy condition with marked cyanosis and dyspnoea, but the evidences of jaundice gradually decreased, and the temperature grew steadily lower, until on the 4th of March, the eleventh day of the disease, it was only 99° F. both in the morning and evening. Modified respiration, however, still remained over the lower left back, and subcrepitant râles were only noticed in the upper portion of the dull region. From this time the temperature was nearly normal, and the patient recovered rapidly. The jaundice disappeared entirely

¹ Archives Générales de Médecine, 1879, page 395.

and the other symptoms steadily improved. On the 28th of March there still remained a circum-cised point just above the lower angle of the left scapula where there was modified respiration with subcrepitant râles. On the 3d of April the percussion and respiration were normal everywhere and the patient was discharged, well. No medicines were given throughout the whole course of the disease except the liquid Dover's powder to restrain cough and restlessness in the beginning; and later, after convalescence was fairly established, the tincture of the chloride of iron as a tonic.

CASE II. On the 19th of March, 1880, Edward C., seventy-four years old, a cooper, born in Maine but now living in Boston, was brought to the hospital with the following history: He had for a long time been addicted to drink, and was in the habit of going off for several days at a time. He had had a cough for a long time, but in spite of this had considered himself well, and had seemed so six days previous to entrance. Four days before entrance he was brought home in a very weak condition and vomiting, and since then he has had high fever, cough, dyspnoea, and delirium. On entrance the patient was very feeble, signs of consolidation were found in the upper lobe of the right lung, and evidence of bronchitis throughout the whole chest. The morning temperature was 99° F., the evening 107.8° F.; pulse 112; respiration 32. The patient was placed on liquid diet (milk with lime water or beef tea) and the liquid Dover's powder was ordered morning and evening. On the next day, on account of extreme prostration, carbonate of ammonia, five grains, was given every four hours. There was no expectoration. The urine contained a trace of albumen, and had a specific gravity of 1011. Subcrepitant râles were heard over the right front on the second day after entrance. On the 24th of March, the tenth day of the disease, the temperature suddenly descended, being only 97° F. in the evening, and after this it remained between 97° F., and 98° F. for six days. The patient was very weak and both micturition and defecation were involuntary. At this time he had an attack strongly resembling delirium tremens. After this he gradually improved; the carbonate of ammonia was omitted on the 30th of March, and he was allowed the usual hospital diet. On the 4th of April percussion was everywhere normal, but there was modified respiration with moist râles under the right clavicle. The patient could only move with difficulty on account of weakness, and his pulse was scarcely perceptible. He was now allowed a moderate amount of whisky, and on the 12th of April, having entirely recovered from his pneumonia, though with signs of threatening trouble below the right clavicle, was discharged.

CASE III. This case is also that of a laborer, a native of Boston, thirty-five years old. He had never been ill in his life until six days previous to entrance, when he had a rigor followed by fever and cough with reddish sputa. On entrance he was much flushed. His lips were dry and covered with herpes, and the tongue was coated. His temperature was 104.6° F.; pulse 78; respiration 29. His mind was clear; there was consolidation of the lower lobe of the right lung. He was put on milk diet, and a flaxseed poultice placed over the back. Two days after, on the eighth day of the disease, the temperature had descended to 97.6° F. both morning and evening, the pulse was 52 and the respiration 29. The sputa were viscid and of the color

of prune juice. From this time he convalesced steadily. On the twelfth day of the disease his respiration was normal and he was able to take ordinary diet. He was given some quinine and four days after discharged, well.

PNEUMONIA; RENAL DISEASE; SUDDEN DEATH.

CASE IV. William E., a teamster, sixty years of age, born in Vermont but living in Boston, entered the hospital in May, 1880. He had always been a strong man, except for rheumatism and intermittent fever during the war, with neither of which he had been troubled since. Five days before entrance he felt sore all over and had fever, cough, and dyspnoea, but no chill. On entrance the lower lobe of the right lung was found to be affected, and there was a friction sound near the lower angle of the scapula. There was no evidence of any cardiac disease. The treatment was similar to that in the preceding cases, that is, he was given liquid diet, and an occasional dose of liquid Dover's powder (ten minims) when needed. The next day there being some prostration whisky was added. On the second evening after entrance the temperature was 103° F.; the pulse 124; and the respirations 48. During the night the patient became wildly delirious, and finally jerked himself up suddenly in bed, and immediately died. The urine had a specific gravity of 1011, and contained a trace of albumen. The sediment consisted of numerous hyaline and large and small granular casts, some with fatty renal epithelium adherent, a few fatty casts, free renal epithelium cells, and a few pus and blood globules.

The foregoing cases illustrate fairly the method of treatment of pneumonia which has been long employed in this service. Uncomplicated cases, in patients who were previously healthy, receive little or no medicine beyond anodynes, which may be required for pain or cough. The diet is simple and nutritious, and as abundant as the patient desires, but he is not urged to take more than is agreeable to him, especially during the period of consolidation, when there is usually an aversion to food. Stimulants are freely given in cases of prostration, and to those who have been accustomed to their use. External applications are rarely made, the relief afforded by them being insignificant compared with the fatigue they occasion to the patient. In complicated cases, of course, the treatment varies according to the indication. The treatment in intemperate patients and those affected with chronic renal disease is usually unsatisfactory, and a large number of such cases die.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.¹

H. C. HAVEN, M. D., SECRETARY.

DR. CHADWICK, in continuing the discussion, said: Dr. Graham seems to me to have given expression to the general opinion current in the profession that gynecologists exaggerate the influence of uterine affections upon the general system, and hence devote their attention too exclusively to local therapeutic measures. This opinion I am fain to confess has been too often true. Dr. Wing, however, only insists upon the

importance of a thorough understanding of the condition of the pelvic organs as indispensable to a proper discrimination in treatment; this full knowledge of the local condition, he affirms, is rarely obtained by the general practitioner, so that in a large proportion of cases he fails to cure his patient. That this assertion is true I have daily illustration in practice. That specialists are not more largely recommended and employed is undoubtedly due to the fact that their charges are higher than those of general practitioners. For this difference I have never been able to see any justification. One man's time should have no greater pecuniary value in consequence of his devotion to one branch of medicine than another's whose sphere of work is more comprehensive, provided their ability, industry, and opportunities are the same.

But to return to the facts adduced in support of his position by Dr. Graham. He cites the results obtained by Dr. Asp by the use of massage in seventy-two cases of chronic uterine affections. These simply go to prove a fact well known to all but the most narrow-minded specialists, that certain classes of cases can only be treated by measures adapted to influence the general system. His results in cases of anteversion merely confirm the conclusions already tardily reached by gynecologists, — after indiscriminate mutilations of the womb, it must be confessed, — that the dysmenorrhoea, so often present, is of purely nervous origin, and rarely due to organic causes. Incision of the cervix for dysmenorrhoea has had its day, and been at length very generally discarded. To be sure, the pendulum has swung to the other extreme, and we are just now urged to sew up the lacerated cervix as a universal panacea; yet I already see signs of a healthy reaction from that practice, and predict its speedy abandonment except in extreme and rare instances.

Massage of the womb, so called, I believe to be a misnomer, the effects obtained being attributable, not to alterations in the muscular or vascular system of the womb, but to the breaking up of perimetrial adhesions of inflammatory origin, and the consequent restoration of the womb to its normal position and mobility. Dr. Graham's own cases hardly support his claims of the benefits of massage in the treatment of uterine affections, for he expressly states that "no local trouble had been found" in any of them, and yet there were local symptoms. This apparent contradiction is dissipated when we reflect that of course the pelvic organs participate in conditions which affect the entire body, whether through derangement of the general, nervous, vascular, lymphatic, or other system. The most perplexing cases to which any practitioner can be called are those in which there is profound disturbance of the nervous system, together with uterine disease or displacement. To determine whether the nervous perturbations should be regarded as reflex phenomena dependent upon the local lesion or the uterine symptoms are merely the local manifestations of the general neurosthenic condition will tax his utmost powers, and the decision must govern his whole course of treatment and determine its success. In illustration of this point I will briefly cite two cases which have recently come under my care, in which the local conditions were identical and yet my conclusions diametrically opposite.

The first case has been alluded to by Dr. Graham in his paper. About eighteen months ago I was summoned to New Bedford by Dr. Fairchild to see a young unmarried lady who had been a miserable invalid for

¹ Concluded from page 208.

eight years and had scarcely left her bed for three years. Without going into details I will simply say that I found the case to be a most perfect type of hysteria, complicated with retroversion of the womb. After several hours' investigation at two successive visits I satisfied myself that the displacement was an insignificant factor and might be safely disregarded. At my instance she was ultimately put under the care of Dr. Weir Mitchell, in Philadelphia, where in the course of a few months she made a perfect recovery without any treatment of the uterus. She has since remained in perfect health in spite of the retroversion.

The other case was the wife of a laboring man in South Boston, whom I found bed-ridden, owing to complete nervous and physical prostration. I raised the womb from a position of extreme retroversion, and supported it with a pessary, with the effect of very speedily ameliorating the general symptoms. They recurred several times, however, when the womb was invariably found to have retroverted over the end of the pessary. Its replacement was always followed by benefit. She ultimately regained her full health without other treatment.

I claim that without a full appreciation of the state of the pelvic organs a proper discrimination between classes of cases of which these are types cannot be made. Massage was used in the first of these two cases with inestimable benefit, whereas if it had been employed in the second it must have been utterly powerless for good. The weak point of Dr. Graham's position is that he gives no evidence that he seeks to make this discrimination by a local examination, and must consequently often fail in the application of his method.

In conclusion, I would not be understood as disparaging massage as a therapeutic means, for there is probably no practitioner in the city who values it higher or employs it oftener when the case is suitable.

Dr. Wing called attention to the full title of the paper, and said he regretted the absence of Dr. Graham, as the latter was evidently in error in regard to what had been stated in *Modern Abuse of Gynecology*. In that paper he had simply called attention to the ignorant manner in which massage and electricity were sometimes prescribed by practitioners who had no accurate knowledge of the patient's trouble. Far from stating that these remedies were useless, as Dr. Graham had apparently understood, he had distinctly said that through such practice discredit was thrown upon these, in proper cases, valuable remedies. So, in order to refute what he, Dr. Wing, had said concerning massage, Dr. Graham would have to prove *either* that massage was never prescribed and used improperly, while in his own paper he complained of the way in which it was abused; *or* that massage was never of value, a position he was not likely to assume, since he practiced massage as a specialty, and one which every one knew would be untenable.

His misunderstanding of the tenor of Dr. Wing's paper had led him to build up a "man of straw," which he had unjustly labeled "Dr. Wing" and then proceeded to knock down.

Dr. Wing agreed with Dr. Chadwick that there was very little evidence that the cases reported by Dr. Graham were cases of uterine trouble.

In regard to massage of the uterus by aid of a hand in the vagina, referred to by Dr. Graham, he felt

that such practice would result in much more harm than good; that, objectionable in all cases, it would be particularly contra-indicated in the case of the unmarried, and that it would be an *abuse* rather than a use of massage. He thought, with Dr. Chadwick, that efforts to loosen and separate pelvic adhesions could not properly be termed or considered massage of the uterus.

Dr. J. B. SWIFT reported a case of empyema treated with antiseptic precautions, which he thought fully illustrated the value of the method.

The patient was sixteen months old, with a clearly-defined history of pleurisy, with effusion, probably purulent, on the left side. The child had been sick about seven weeks. There was complete flatness over the left side, both front and back, even above the clavicle. The diagnosis was confirmed by aspiration with the hypodermic syringe, and later a free opening was made.

For the first eight days, although the general condition of the patient was eminently satisfactory, there was a discharge of pus, rendering a daily dressing necessary; it was then found that in moving the child the mother displaced the dressings. The cavity was syringed out, the dressings replaced, and secured by carbolyzed adhesive plaster; after that not a single drop of pus was seen. Four days later the tube was forced out by the contracting orifice, and some time during the week following that (the dressings being undisturbed for that time) the opening entirely closed, and the child was perfectly well.

Dr. H. I. BOWDITCH said he had that very day conversed with a man who, in 1840, suffered from a large effusion, and the case just read well illustrated the change which had occurred in professional sentiment as regards tapping. At the former period, although the diagnosis of a large amount of fluid in the pleural cavity was self-evident, and it was plain that unless relief were given death would ensue, only one of *eleven* consulting physicians was bold enough to plunge in a scalpel at a prominent part, and he did it only after much hesitancy, and when selected by the patient. Every one seemed to think that the patient would undoubtedly die, and the sufferer called upon the person he had most confidence would do it. He assumed the task as a species of martyrdom. When the pus spurted out and the patient seemed somewhat relieved, the physician who was supporting the patient asked him how he felt, and upon his saying that he was much better and *wanted something to eat*, his interlocutor exclaimed, "My God! he will live in spite of all of us!"

Now, tapping of the chest is an every-day occurrence. A few days since President Eliot asked Dr. Bowditch whether he thought that medicine had in diagnosis and treatment kept up with other branches of science and art. Dr. Bowditch thought this case was one instance of the great progress medical science and art had made of late, and proved it had kept fully abreast of the other branches of science. The recent application of the antiseptic method of treatment, as in the case reported, was, he was inclined to believe, a still further progress.

Dr. BLODGETT spoke of a case operated on by Dr. Minot, some ten years since, which offered a most striking contrast to that of the reader. The relief was, at first, as great, but soon the discharge became very profuse and offensive, so much so that it was a question whether the patient would not succumb to the incident exhaustion. The discharge was of the most

offensive character imaginable. A silver drainage tube was worn for nine months, after which time the discharge gradually ceased. It was two years, however, before respiration could be heard over the base of the affected lung; at present the man is in robust health, and at the last physical examination no difference could be detected between the two sides.

DR. WEEKS did not consider it fair to compare the two cases as Dr. Blodgett had done. It was well known that the healing process was carried on more quickly in the child. He thought the present tendency was to overvalue the antiseptic method. He had recently operated on two cases of empyema in children; one was entirely well in fourteen days. In the other, owing to the drainage tube slipping out, the fluid re-accumulated; after a second operation, however, a speedy recovery followed.

In reply to this, DR. A. T. CABOT spoke of a case which had recently been under his care, where the antiseptic method was employed, and where recovery was very rapid, in spite of great imprudence on the part of the patient. Dr. Cabot thought a great deal of the discredit which seemed to attach to the antiseptic method in Boston was due to an imperfect and partial following of Lister's directions. He doubted if any one who had seen the freedom with which the knee-joint was laid open in Lister's wards, and the almost universally favorable results obtained, could fail to be convinced of the great value of the method, and also of the importance of carrying out the most minute details.

DR. WARREN showed a uterine sound, with screw-point, which he claimed greatly facilitated its introduction.

DR. PARKS exhibited a contrivance which he had improvised in a case of tracheotomy when he was unable to get a tube. It consisted of a wire doubled on itself at the middle and adapted to the curve of the trachea, the ends being bent so as to separate the tracheal wound, and tapes attached as in the ordinary tubes. Dr. Parks claimed no originality, having seen it used in Philadelphia.

DR. F. A. HARRIS exhibited and explained the working of a model (one third size) of the Chelsea guillotine. In reply to a question, Dr. Harris said that he did not consider it probable that the victim obtained any really anæsthetic effect from the ether used.

MAY 29, 1880. The meeting was called to order at eight o'clock. DR. HODGES in the chair. Fifty-one members present.

DR. A. N. BLODGETT read a paper on *Hallux Valgus*, with a report of two successful cases. He described the affection as a complaint consisting in the anatomical element of extreme abduction of the great toe, which, instead of forming a continuation of the line of the foot, is turned outward, is rotated on its axis to a greater or less degree, and, in very marked cases, is found lying either under the other toes, or compressed into an irregular, deformed member, and crowded with the other toes, forming a conical projection from the line of the metatarso-phalangeal articulation. The other toes are abducted, that is, are inclined toward the middle line of the body, and therefore more in an opposite direction from the great toe. The great toe shows a decided tendency to lie under the remaining toes, being found in the depression beneath the first phalanx, with the other toes closely folded down over

it and turned downwards, so that their points and the toe-nails rest upon the bottom of the shoe. In connection with the distortion and dislocation of the great toe, there is generally much swelling and protrusion of the tissues about the head of the capitulum metatarsi, which is often the seat of intense suffering from pressure upon the prominent joint. Professor Hamilton considers the condition of the articulation to be that of subluxation, in which the first phalanx, instead of being simply dislocated outward, has partially rotated, so that its proximal end rests upon the outer surface of the capitulum. He also observes that the articulating surface is prolonged outward to a greater or less extent, to form a joint in the new position of the phalanx, and that the synovial cavity becomes obliterated at its internal border.

The large number of cases are produced in a purely mechanical way, by the wearing of ill-fitting shoes. The effect may be from two causes: from shoes which are too narrow, and also from those which are too short. The fashion of wearing high heels has a continual tendency to produce or perpetuate the disease, from the tendency of the foot to slide toward the toe of the shoe.

Another cause which sometimes tends to produce abduction of the toe is any affection of the muscles which would shorten them, or in any way interfere with their functional integrity.

A third cause is some lesion located in the joint itself, which causes a change in the shape of the capitulum and often in the head of the phalanx as well.

Chronic arthritis is also a frequent cause of deformity in this joint. Various methods of treatment have been tried with varying degrees of success, but most of these have been discarded as impracticable or useless. Rest in bed will sometimes relieve the inflammation, but will do nothing toward relieving the deformity.

Tenotomy is often resorted to as a means of relieving the deformity, but its effect is only imperfect and transitory.

Amputation relieves the abduction of the toe, but is subject to grave objection from the greater deformity inflicted upon the foot, the unprotected position of the remaining toes, and the disturbance to the equilibrium of the body.

Professor Hueter in his *Clinical Treatise on Diseases of the Joints* discussed the disease, and stated that the head of the metatarsal bone had been excised for caries with such success as to recommend the operation, and he advises it also in extreme cases of abduction of the toe from other causes.

Professor Frank H. Hamilton first called attention to this method of treatment in America by a paper, describing the operation and accompanied by a report of eleven cases, which was read before the Buffalo meeting of the American Medical Association.

The operation, as Hueter performed it, consisted in an incision upon the inner surface of the toe in the direction of its axis, which is carried to some distance on either side of the joint. The capsule is opened, the ligaments are cut, and a subperiosteal dissection of the head of the metatarsal bone is made, the capitulum is removed by bone-forceps or a saw, the toe is brought into a line with the foot, and the wound is left to heal by granulation.

The cases reported by Dr. Blodgett were of the right and left foot respectively of the same person. The history was that of chronic rheumatic arthritis, no doubt

aided materially by wearing improperly shaped shoes. There was a great degree of abduction of both great toes, so that they lay under the bodies of the other toes. There was great pain and almost entire inability to walk. The distal end of the first metatarsal bone was very prominent and knobby, and the articulation between it and the first phalanx was removed from the end of the bone to a point on its outer side. The tissues were stretched over the head of the metatarsal bone; they were red, abraded, and sore.

The right foot was operated on February 26th by an incision 2.5 cm. long in the axis of the first metatarsal bone, and connecting with another incision transverse to the course of the bone, thus forming a right-angled flap. This was turned back and the head of the bone exposed. The joint was opened, and the head of the bone forced from its attachments to such a degree as to allow a thin steel watch-spring saw to be passed behind, when the bone was quickly sawed off at a point about two cm. from its distal extremity. There was but little bleeding. The wound was washed in carbolyzed water, and three silk sutures were applied, by which the flap was retained in place. A light carbolyzed compress and bandage were applied. Eleven days after the operation, wound fully closed. Not much tenderness and no pain. Patient beginning to walk on foot.

March 20th. Left foot operated on in same manner as right. Fourteen days after, wound fully healed. Patient is walking without any pain or discomfort.

June 16th. Examination of both feet shows the great toes in normal line with the foot, not sensitive, with extensive motion, the joints not tender, nor in any way causing her any trouble. In fact, both feet are in as good shape and proportion as is found in the majority of so-called healthy feet.

DR. C. P. PUTNAM opened the discussion. He said that it was very rare to see an adult foot which was not more or less deformed, and thought that the deformity was due to the shape of the shoes usually worn. He exhibited some casts and tracings of feet showing the way in which the great toe was crowded out of its normal position, producing the deformity described in the paper. He also showed some shoes which were made in a proper manner, to prevent this deformity taking place.

DR. HODGES thought that the health and occupation influenced the form of the foot. In a person in poor health, or where the tissues were relaxed, the arch of the foot gave way, the foot became flattened, and the heel was thrown outward. He did not think that so much depended on the shape of the shoe. In regard to a stiff shank, he thought that it was necessary when walking on hard places, as city pavements, to support the arch. In the case of Indians and country people who go barefoot, they do not need the stiff shank, as what they walk on is soft, and so the ground supports the arch.

DR. BRADFORD mentioned the case of a child with a rudimentary toe, where he took advantage of the way in which a shoe is ordinarily made in order to rectify the position. The great toe, which really consisted of two toes, was placed in such a position that it made an angle with the foot. The pressure made by the boot tended to rectify the position, so that amputation was not necessary.

DR. WING spoke of a case of chronic inversion of the uterus, which he had replaced by continued pres-

sure, where the patient had since become pregnant, and had been delivered of a child weighing nine pounds. He also mentioned another case of chronic inversion of the uterus which had been replaced by continued pressure.

DR. WHITNEY showed some pathological specimens of congenital club-foot and rachitis, and after remarks by Drs. C. P. Putnam, Bradford, J. J. Putnam, and Webber, the society adjourned until the last Saturday in September, 1880.

Recent Literature.

The Waters of Kreuznach. A Work for General Readers. BY CHARLES ENGELMANN, M. D. Third Edition, revised and in part rewritten by FREDERIK ENGELMANN, M. D. London: J. A. Churchill. 1880.

The author of this little book on the modes of application and effects of the waters of Kreuznach was formerly physician at that spa. The second edition being out of print, the author's son, who is now physician at Kreuznach, has published the present one, which is entirely remodeled. The book is designed for general readers, and gives all necessary information about the waters of this spa, whether used for drinking or as baths. It is refreshing to read in a book of this kind a frank acknowledgment "that our mineral water is not a panacea for all sorts of complaints; in a comparatively small number of forms of sickness it is used with good result." The following passage trims a little on the other side, and is a good example of English from a German pen:—

"The first condition for a favorable effect of a stay at Kreuznach will always be the spring is suitable to the illness, and that it is not yet so far advanced as to be incurable. Besides that we expect that the patient is firmly resolved to make good use of his time, often but too shortly measured, and that he fulfills his intention with even the greatest severity, we trust that he will be well informed by his medical adviser at home not to have too much hope of a quick, miraculous recovery from his complaints, which are known to be very obstinate and which have lasted for many years, nor should he distrust the efficacy of the water."

In no hypercritical, but merely in an etymological, spirit we notice on another page that the word tumbler does duty for tumbler. In fact the style, though perfectly comprehensible, reminds one at times mildly of the celebrated Portuguese-English grammar.

— According to the *Philadelphia Medical Times*. Dr. G. C. Wittstein, in an Austrian pharmaceutical journal, explains how to distinguish cream butter from "ox butter" by means of the microscope. Place a small piece of the butter upon an object-glass, spread it out by means of a cover-glass, and observe it under a power of three hundred to four hundred. If it is pure butter the whole field is filled with extremely fine globules, which are entirely destitute of any approach to crystalline form. If the butter is artificial, or a mixture of both, the field presents numerous angular or acicular particles between the globules. These crystalline particles are derived, no doubt, from the stearine which forms part of the beef-tallow in artificial butter. Lard does not show any such crystalline particles.

Medical and Surgical Journal.

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AN EPIDEMIC OF HYSTERO-EPILEPSY.

A CURIOUS and, for the present day, unusual epidemic of hystero-epilepsy seems to have been developed in an Italian town, Verzegnis, during the year 1878. A detailed account of it has appeared in one or two of the scientific journals of Italy, and Professor Colin, a French epidemiologist, has called attention to it in the *Annales d'Hygiène et de Médecine légale* for July. It appears the outbreak first manifested itself in January, 1878, in the person of a young woman, who had for some years exhibited symptoms of simple hysteria. From the above time, however, these were complicated by convulsive attacks accompanied by cries and lamentations. The neighbors believing her to be possessed by a demon, she was exorcised. From this time she became worse, the attacks more frequent and aggressive in character, and especially provoked by the sound of church bells and the appearance of priests. In the course of seven months three more cases occurred, presenting the same convulsive and declamatory attacks. The attempt at exorcism of a demon was repeated, with the addition of the celebration of a solemn votive mass in the presence of the sufferers; this was followed by a further development of the phenomena. Finally, in December, 1878, about forty women of this village having been the victims of this religious mania, two physicians were appointed by the prefect of the district to investigate the subject. At the time of their visit fifteen women, of ages ranging from sixteen to twenty-six, and three over forty-five years of age, were found "possessed." During their attacks the victims talked of the demon which possessed them, gave the date when they were taken possession of, and mentioned the names of those who had been possessed before them, some boasting that they were prophetesses and clairvoyants, and that they had the gift of languages. The epidemic was quite prolonged and difficult to break up. After the departure of the visiting physicians, a number of new cases appearing, the civil authorities ordered the military occupation of the place, and the removal of the "possessed" to the hospital of the neighboring town.

The situation of this village of Verzegnis, its isolation from the surrounding country, with a consequent difficulty of communication and infrequency of intercourse, taken in connection with the mental characteristics of its population,—there being but little education and much superstition,—offers on a small scale the conditions which in the Middle Ages prevailed

over wide areas. The character and course of the outbreak, though on a small scale, recall the various nervous phenomena in epidemic form which appeared at different times in former centuries in various parts of Europe, some of which have been so graphically described by Hecker, as the frequent epidemics of the "dancing-mania," the processions of the flagellants, etc.

The performances to be witnessed, now less frequently than formerly, at the "camp-meetings" in this country, and among some of the semi-religious organizations which flourish in the United States, belong to the same order of phenomena. Charcot and his fellow workers in the field of disorders of the nervous system have taken these phenomena out of the domain of demonology, of witchcraft, or of inspiration, and in teaching us to compress the abdomen and use the term hystero-epilepsy have made us feel, if not masters of the situation, at least a contempt for it.

THE ADVANCEMENT OF SCIENCE.

SCIENCE has been assiduously advanced by no less than three different associations in as many different countries during the past and the present week. The meeting of our own American Association in Boston has been interesting and very successful, both from a scientific and from a social point of view. At the same time the French Association was in session at Rheims, and the British Association was holding its fifth annual session, which promised to be rather a quiet one, at Swansea, in Wales. It is not probable that its president, Professor Ramsay, will be able to promise his audience such startling achievements from geology dealing with inanimate matter as Professor Barker holds out to us from chemistry and physiology in their dealings with protoplasm, which is to be manufactured by the former science and animated by the latter.

MEDICAL NOTES.

—The death at Somerville of Dr. C. T. Jackson, for many years so well known for his activity as a chemist and scientist, is announced. Most of our readers will call to mind his connection with the controversy over the discovery and application of ether as an anesthetic.

—We learn with regret that Dr. O. S. May has not only felt compelled to resign his position as superintendent of the Danvers Asylum, but also to withdraw immediately from the service.

—M. Trelat, professor of pathology of the Faculty of Paris, has been transferred to the chair of clinical surgery, vacant by the death of Professor Broca.

—The *Lancet* presents itself this week with an extremely attractive table of contents, but with its scanty medical parenchyma so surrounded and transformed by the interstitial inflammation of advertisements that nothing remains except connective tissue. Some one has blundered.

— The mermaid which served to help Barnum on to fame and fortune as a showman, about forty years ago, caused a great deal of talk at the time. Barnum now tells the story, according to a correspondent of the *Indianapolis Journal*, as follows: "Moses Kimball (H. L. C.) came from Boston with what he declared was a genuine mermaid. The lower part was the tail of a shark or some large fish, but the upper part was not of woman's form by any manner of means; it was a hideous head and shoulders, apparently of some sort of ape. Pretty soon a letter was written from Mobile to the *Herald* with the announcement that a man had landed there from the Sandwich Islands, bringing a genuine mermaid. It had not been seen and would not be exhibited, for it was on its way to the London Zoölogical Gardens. This was copied all over the country. In another week a letter from Charleston announced that the wonder had arrived there on its way to New York, whence it would sail to London. A more detailed account of the wonderful creature was given. This served to swell the curiosity. From Baltimore came still other letters; and then I sent my man to Philadelphia, carrying the mermaid in a close box. He put up at the best hotel and cultivated the landlord. To him, just as he was paying his bill and was leaving, he confided the secret that he was the Englishman who had caught the mermaid. 'Now, see here,' said the landlord, 'you must let me see it.' After much persuasion the mermaid hunter yielded. Then he said, 'See here, you must let me show it to one or two reporters.' After more importunity the weak Britisher yielded, and a limited exhibition was permitted. The Philadelphia papers blazed with it the next morning. The next day it was brought to New York, and the same performance was gone through with at the Astor House. The papers were full of it and the city was all agog. Thousands flocked to see it, but no exhibition was allowed, except to reporters. I was not known in connection with it until the proper time."

— The annual report of the Assistant Commissioner of Police on the operation of the Contagious Diseases Acts during 1879 has recently been presented to Parliament. The report remarks that the women in the several places subject to the acts have attended medical examination with great regularity; that the police specially employed have discharged their duties in a perfectly satisfactory manner, not a single case of excess or violation of duty having been brought to notice; and, though the number of women remaining on the register at the end of the year was seven more than in the preceding year, a total decrease of three thousand and fifty-seven has taken place since the acts came into operation. Whenever a chance exists of reclaiming a woman, every effort is made before she is brought under the operation of the acts, and after she has signed the voluntary submission form the opportunity is still given her of returning to her friends. — *Medical Times and Gazette*.

— Professor A. W. Hoffman has been appointed Rector, and Professor Schroeder Dean, of the Faculty of Medicine in the University of Berlin.

— At the recent democratic convention in Connecticut the responsibility for the passage of the new law, prescribing the examination by experts of railroad employees for color-blindness, was thrown upon the republican party.

— The *Medical Times and Gazette* says that the International Hospital, founded in Naples, October, 1877, receives not only sailors of all nations who arrive there sick, but affords travelers of higher rank all the comforts of a private house with the benefits of the attendance of a resident physician (well acquainted with the English language), and trained nurses under the superintendence of an English matron. A first-class patient pays fifteen francs per day, for which he has the physician's attendance, medicines, nursing, the use of bed-linen, and other necessities, an excellent diet when convalescent or when the malady does not forbid it, and, in fact, everything necessary; second-class patients pay six francs per day; third-class, two francs, fifty centimes. These last classes are treated exactly in the same manner as the first, except that they are two or more in one ward, and their rooms are less well furnished. There is an entirely separate portion of the house for infectious diseases. The British Government contributes a donation of sixty pounds a year, on condition that there be an English-speaking nurse kept in the hospital. The British and American hospital was closed in 1871.

— The following are the comments of the *British Medical Journal* on the Ingle case at Guy's Hospital.

The sentence of the judge in this case appears, when the proved facts of the case and the antecedents of the accused are considered, to be far from erring on the side of over-severity. The evidence of Sir William Gull has created a very painful impression throughout the profession. No little surprise is felt that Sir William Gull should have thought it right to go into court to give evidence against a colleague upon a document which that colleague had never seen, and without any prior conference with him as to the actually observed facts, or his interpretation of them; and, still more, that he should entertain the opinion that the prolonged immersion in cold water, and the physical and moral shock inflicted on the unhappy woman, had no share in the sudden exacerbation of her symptoms, and the acceleration of her death. Dr. Pavy has intimated his intention of submitting the facts to the consideration of the Censors of the College of Physicians. Meantime, the opinion of the profession, as expressed on all hands at Cambridge, whether privately or publicly, is one of such extreme and unanimous indignation at the course pursued by Sir William Gull, that it may be hoped he will find some opportunity of stating formally what it is which in his mind constituted the justification of the at present inexplicable evidence which he gave. We can but cherish the hope that this explanation may be forthcoming, and that it may be such as will satisfy the conscience of the profession, which, he must now be well aware, is grievously wounded by what he has done and said in this matter.

— It is reported that Professor Klebs has resigned his chair at the University of Prague.

NEW YORK.

— An apparently well authenticated case of insanity produced by fear has just occurred. The patient was a stowaway on board the steamer *Zuland*, which recently arrived from Antwerp, and after his presence on the vessel was discovered his mind was so affected by some jocular remarks of the passengers that he was to be thrown overboard that he stabbed one of them in the back of the neck, under the impression that if he committed some such crime he would be spared this fate. The wound, fortunately, did not prove fatal, and the man will be sent back to Belgium.

— A remarkable dwarf reached this city from Ireland by the last trip of the steamer *Wisconsin*, of the *Guion* line. It is a female thirty-one years of age, and was born on an island off the coast of Kerry. Up to the age of six months she continued to develop in the usual manner, and then suddenly ceased to grow, with the exception of the head, which is now the size of that of an adult woman, while the body is like that of an infant. The hair is two or three inches long, but is thin and fine, and has fallen out in patches; while she has also lost a number of her teeth. All attempts at training have failed, as she has never been able to walk, talk, or even utter a cry. At the same time she seems to understand conversation, is apparently sensitive to remarks about her person, and has a good memory for faces. Her only food is milk and bread, and she takes but little of this. Her parents are taking her to Mahanoy City, Pa., where they intend to settle with some of their other children, there being nothing abnormal about any of the rest of the family.

— Dr. Ghislani Durant, of this city, has been made the recipient of a superb silver cup, manufactured at Tiffany's, from Mr. Edwin Booth, in acknowledgment of his services in curing the latter of a serious disease of the tongue, for which he had consulted several other medical men without relief. It is a three-handled cup, of classic form, ornamented with rich *repoussé* work. One of the figures in relief is that of a faun, with tongue projected, beneath which are the words, "Let the tongue now laugh." Around the upper border of the goblet is the quotation from "Macbeth," "The mere despair of surgery he cures;" while at the base is the inscription: "This 'loving cup' is presented by Edwin Booth as a token of esteem to Ghislani Durant, M. D." All the lettering is done in raised letters of gold.

— On the 19th of August Dr. Henry Moræ Bradford, of New York, died at Richfield Springs. He and his brother Frederick were pupils and successors of their father, Dr. Gunning S. Bradford, the eminent obstetrician, who died ten years ago. Ex-Judge Bradford is another brother of the deceased.

PHILADELPHIA.

— The wily Buchanan, of bogus diploma fame, recently contrived a very ingenious scheme to escape from the disagreeable necessity of answering for some of his many offenses before a court of justice. He was

at large on bail, when upon August 16th, the day before his trial was to take place, a man of his general appearance jumped into the Delaware, from a ferry-boat, at midnight, and disappeared. The next morning the papers announced the death of Dr. Buchanan, but the day had not passed before the impression was general that no suicide had occurred; either he had been rescued, or he had engaged some good swimmer to personate him, who subsequently escaped. The place of the occurrence was not twenty feet from shore. Indeed, an expert swimmer testified in court that an offer had been made to him to personate a man, and to jump from the ferry-boat; and the belief is gaining ground that this is what actually has occurred. Intelligence has been since received that the fugitive is under surveillance in Detroit. It is scarcely necessary to say that the river was dragged for a couple of days in vain by the authorities. His wife has offered a small reward for his body. Although the chief is out of the way, the work goes bravely on, and since his arrest, his son and an associate have been held to answer for continuing the traffic in bogus diplomas. It is believed that if this business is to be broken up, the general government will be obliged to follow up the work it has begun, so as to exercise some wholesome restraint upon the promiscuous distribution of diplomas (for a small consideration), which, in too many cases, also convey to the purchaser a license to practice medicine.

— In Philadelphia there are a large number of irregular licentiates of electropathic, eclectic, and other similar establishments, besides many who have not even a show of authority to practice medicine. A death certificate was brought to the Board of Health office last week for a child whose cause of death was certified to be "collary fantum." The coroner sat upon the document and the doctor, and decided it to have been a bad spell of "cholera infantum." The physician was a graduate (?) of Buchanan's institution, where he had listened to eight lectures and paid twenty dollars for a diploma. There is nothing mean about Philadelphians, they are apparently willing to let anybody practice medicine on them. It is here the rule for druggists to prescribe over the counter, and even to attend professionally at the patients' houses. It is true that one occasionally gets himself into trouble for instance, a short time since by signing a death certificate stating that a child died of summer complaint, whereas the coroner decided that it died of scarlatina; but such a *contretemps* is rare, for the druggist has learned the homœopathic trick of retiring from a case shortly before death occurs, so that some physician in good standing shall be called in just in time to make a diagnosis and fill out a certificate.

— Instances of longevity generally occur among the Irish and negroes, where the age is largely a matter of conjecture. The following case appears well supported, and if Thom's conclusions are correct from his investigations into the authenticity of the reported age of celebrated characters, this subject attained a greater age even than Thomas Parr: An inmate of the Baptist Home, named Mrs. Margaret Kale, died on

Wednesday, July 28th, at the advanced age of one hundred and seven years. The old lady was born near Reading, Pa. About forty years ago her husband died, and afterward she followed the occupation of nurse, until old age rendered her incapable of caring for herself. She was admitted to the Baptist Home nine years ago. Her mind was clear till the time of her death, and she was able to carry on a spirited conversation.

Miscellany.

AN ENGLISH LETTER FROM AN OCCASIONAL CORRESPONDENT.

THE IMBROGLIO AT GUY'S HOSPITAL; THE CONVICTION OF ONE OF THE NEW NURSES FOR MANSLAUGHTER.

MR. EDITOR, — The trouble between the medical staff and the nurses at Guy's Hospital, which has for some months been a matter of public notoriety, has at length reached a dramatic climax by the conviction of one of the nurses for manslaughter. If your readers will refer to the pages of the *Nineteenth Century* of some months ago, they will see how bitter was the controversy. That there was some cause of complaint against the old nurses is very possible, but the spirit of the paper of Miss Lonsdale shows clearly enough that however great her administrative abilities may be, her appointment was a most unfortunate one for the hospital. Her article is overflowing with self-assertion, and it is apparent that though she might admit that the medical staff were her collaborators, she had no idea of admitting that she was their subordinate. It requires little knowledge of human nature or of hospital administration to infer that this state of things could not long continue without some public scandal. The present case is, in brief, as follows: There was a young woman, suffering from phthisis of one lung; at least this was the diagnosis. There is reason to believe that she was hysterical and disagreeable. Consumptives are apt to be. In well-regulated hospitals, however, this is not considered as a just cause of grievance to the nurses. On the 5th of July this unfortunate woman soiled her bed, and the nurse was very angry, and, with the consent of the sister of the ward, determined to give her a bath. (Let me state in parenthesis that "sister" means what we should call head nurse, and "nurse" what we should call an "assistant nurse.") The medical staff was not consulted, as of course, in "nursing," these ladies consider themselves paramount. The bath being, apparently, quite as much a measure of discipline as of cleanliness, the patient was not wheeled or carried, but walked (some accounts say very roughly), to the distant bathroom. She was put into a bath, which was practically a cold one, for at least most of the time, and was never a really warm one. Accounts vary as to the time she was kept in it, but she was out of her bed for more than an hour, and probably most of the time in the bath. A ward-maid found her shivering in the chilly water, and spoke to the nurse, who replied: "Yes, but she is so obstinate she won't help herself, and I am determined I won't help her." The nurse at last took her out, and walked her back to bed, according to at least one account with great

brutality, but the justice at the trial did not think this last point clearly established. Dr. Pavy, under whose care she was, saw her that day, and found her suffering from the effects of this treatment, and directed that the matter should be inquired into. The patient, to make a long story short, went from bad to worse, and died in about a fortnight. At the autopsy tubercular meningitis was found, which apparently was the immediate cause of the death. All this, and perhaps more, for I have omitted alleged details of ill-treatment, was shown at the trial. The most important witness for the defense was Sir William Gull, who, although he could not say that the bath was judicious, implied that the disease all along was tubercular meningitis. One plea for the defense, and which appears a very extraordinary one, is that, the patient being hysterical, a rousing treatment was indicated, and that the nurse was at worst guilty of indiscretion. Hospital management has surely come to a pretty pass when nurses are to decide to what extent patients are to be "tuned up," if you will forgive me the word, and what the nature of the "tuning up" is to be. The jury, on August 6th, after an absence of fifty minutes, found the prisoner guilty of manslaughter, and brought in also the following rider, which was read from the bench: "We think there has been shown negligence on the part of the nurses, and there should be a better supervision by the medical officers of the hospital." As far as I have been able to judge by the daily papers, the verdict, as affecting the prisoner, is considered a just one. Referring to the rider, the *Times*, in a very severe editorial, observes: "We do not quite see where they discovered evidence of 'negligence' on the part of the nurses, since the facts seem rather to point to the mischievous activity of a person rendered rash by ignorance, and released from the restraints suitable to her position." It says also, very judiciously, "The tendency of those who would describe themselves as the 'nursing authorities' of the hospital has been in the direction of repudiating medical supervision or restraint, and it is not a matter of surprise if an assistant nurse, with such examples before her eyes, considers herself able to decide when and in what degree an offending patient should be subjected to disciplinary treatment." The testimony of Sir William Gull would appear a little extraordinary, as he never saw the case, and based his opinion on the clinical record. This at least is the way it seems to strike Dr. Pavy, for in the *Times* of August 7th, the day after Sir William Gull testified, he published the following card:—

"TO THE EDITOR OF THE TIMES:

"SIR, — In the trial of the Guy's Hospital case, just concluded at the Old Bailey, Sir William Gull has cast what I consider an unwarrantable aspersion upon my professional competency. Will you permit me through your columns to call upon him to make a public retraction, in default of which I shall refer the matter to the College of Physicians, to which we both belong?

"I am, sir, your obedient servant, F. W. PAVY.
"35 GROSVENOR STREET, August 6th."

To continue the narrative in the order of events, the prisoner was brought in for sentence the next day, August 7th. There was some evidence offered of previous good character, and counter testimonials of bad temper and disrespect to the medical staff at another

hospital. Mr. Poland, the counsel for the prosecution, hinted that complaints had been received by the medical officers at Guy's of rough treatment by the prisoner, and the following suggestive dialogue occurred between him and the presiding justice, Mr. Hawkins:—

Mr. Hawkins. Then why did not the medical officers display better supervision? Why did they permit patients to be placed under her care? It was a very gross neglect on their part.

Mr. Poland observed that the medical officers had no control over the nurses. Only the "sisters" had that control.

Mr. Hawkins remarked that surely the medical officers who were responsible for the health of the patients had some control over the nurses, and might have remonstrated with the defendant.

Mr. Poland was afraid they had not. The medical officers had no control over the nurses, who were under the authority of the "sisters," who were the governing body.

Mr. Hawkins observed that all he could say was that it was very bad management if the governing body and the medical staff could not run smoothly together in dispensing the relief they had to dispose of.

Mr. Poland. I think it very likely that good may come of this case.

The justice sentenced the prisoner to three months' imprisonment. He would not, he said, add the indignity of hard labor. This, I think, is satisfactory. The mortification of the conviction and the imprisonment is certainly a severe, though a richly deserved, punishment for this woman. Her father was a surgeon; she is, I understand, a member of a semi-religious body, and receives no pay. Great as her fault was, it after all was, perhaps, not wholly her own, but rests in part on the insubordination and conceit which the party backing the new system of nursing at Guy's appears to have fostered. Of course, the end is not yet. Reams of foolscap will be sent to the medical journals, the daily press, and the monthly magazines. Numberless side issues, undoubtedly, will occur. The quarrel between Dr. Pavy and Sir William Gull is already a very pretty one as it stands.

Let us hope that this matter will end in putting the wards under the control of those who, by education and position, are best fitted to command, and that the nursing body may be taught that their place is to obey.

DOVER, August 9, 1880.

TRAIN-CATCHING.

THE *Lancet* reminds its readers again of the familiar but real dangers incurred by Paterfamilias, who, having located his family at some "watering-place" within two or three hours of London, intends to take his holiday by "running up and down," and warns them that the practice of hurrying to catch a train is attended with many serious risks. The exertion may not be of long duration, and except on very rare occasions, when it "seems to upset" him a little, the effort may be rapidly over and soon forgotten, but the strain on the heart and blood-vessels is violent while it lasts, and although unnoticed at the time it may work mischief. We have in our recollection cases of grave disease set up in this way, without the cognizance of the sufferer. There is, however, a class of cases, which does not appear to be

generally recognized, and to which it may be well to direct attention. Not only may injury be done to the heart and great vessels by this exceptional straining, but the delicate structure of the nervous centres may be injured. It is a common experience with persons who are laboring under certain forms of incipient or subacute nervous disease, that violent exertion excites them mentally, in some instances producing almost homicidal impulses. There are several hypotheses on which this disturbance may be explained, but the point we are at the moment chiefly interested to bring out is the fact that not only may the rapid flow of blood stir the brain to impulsive action, it may even rouse dormant animal propensities to excitement. The impulse felt by a hurrying pedestrian to push or knock persons in his path is not wholly *impatience*; it is, in fact, a physically-induced irritability which, being often repeated, may become persistent. Train-catching does not improve the temper, and in some instances it may do remote and very serious mental mischief.

FRATERNIZATIONS WITH HOMŒOPATHS.

THE following editorial from the *Medical Press and Circular* of June 30th we deem of sufficient interest to copy entire:—

"The relations of the profession with homœopaths have been recently the subject of a most animated and important controversy in Dublin, and, as a definite and, we hope, a final opinion has been expressed by the Fellows of the Irish College of Surgeons and by the council of that body, the matter comes to be eminently deserving of discussion by the profession, and of comment in these columns. In the month of August, 1861, the scandal of open professional association between Fellows of the Irish College and other legitimate practitioners with homœopaths had grown to such proportions that a strong feeling in the profession was aroused. Certain leaders of the surgical profession were then to be seen in daily fraternization with irregular practitioners, meeting them as consultants in the sick-room, and presumably aiding and advising them in their treatment, and modifying their own therapeutic method so as to meet the bias of the patient and the special tenets of the infinitesimalists, and the public had begun to assume that there was nothing at all irreconcilable between scientific medicine and Hahnemannism, and to discover that there were surgeons of admittedly high rank who were quite willing to accept fees for consulting with homœopaths, and, if necessary, to make their prescriptions suit the theories of patient and infinitesimalist.

"But then, as now, the Irish College of Surgeons was equal to the occasion, and was not awed into toleration of this fraternization by the fact that the surgeons who drove this sort of trade were nominally leaders of the profession. Accordingly, the council, after much deliberation, adopted the following ordinance, which, by virtue of the college charter, becomes absolutely binding, and disobedience of which would have subjected a Fellow or licentiate to formal censure, and even to expulsion from the college:—

"No Fellow or licentiate of the college shall pretend or profess to cure diseases by the deception called homœopathy, or the practices called mesmerism, or by any other form of quackery; neither shall they or any

of them seek for business through the medium of advertisements or by any other disreputable method.

"It is also hereby ordained that no Fellow or licentiate of the college shall consult with, meet, advise, direct, or assist any person engaged in such deceptions or practices, or in any system or practice considered derogatory or dishonorable by physicians and surgeons; nor shall he, directly or indirectly, have any professional communication with such persons."

"The ordinance thus adopted was then and since sent to every Fellow of the college, and has remained in full force for nearly twenty years, and its effect has undoubtedly been to restrain Irish surgeons from open association with homœopaths, and to restrict the practice of these persons to patients who are content to trust themselves to the sole ministrations of the followers of this line of practice.

"Recently the subject was revived, and became the focus for much controversy, and, in view of a particular case in point, was brought under the notice of the Irish College of Surgeons at its annual general meeting on the last Monday in May. Then and there, with but one dissentient voice (that, we regret to say, of a senior member of its council, an ex-president, and a high official of the college), the Fellows reaffirmed the foregoing ordinance, and, their powers being restricted to a recommendation to the council, did then and there recommend the college executive to increase the force of the prohibition by adding to the ordinance the words 'or directly or indirectly have any professional communication with such person.' At that meeting of the college a forcible legal objection to the ordinance was started by the representative of the college in the general medical council, who pointed out that it was at variance with the twenty-third section of the medical act. That section provides that,—

"In case it shall appear that an attempt has been made by any body, entitled to grant qualifications, to impose upon any candidate offering himself for examination an obligation to adopt or refrain from adopting the practice of any particular theory of medicine or surgery, as a test or condition of admitting him to examination or of granting a certificate, . . . the privy council may thereupon issue an injunction to such body so acting, directing them to desist from such practice."

"The college had, of course, never thought of putting any question to a candidate for its licenses as to his intentions as to practice, but, by its charter, it required all Fellows and licentiates to obey the college ordinances, and inasmuch as the prohibition against quack practice was one of these ordinances, it was held that the college law was at variance with the medical act.

"The recommendation of the college at large was submitted to the council at a special meeting on Wednesday last, and thereupon two notices of motion were placed on the order paper. The first of these was in the following terms:—

"That the ordinance of council of the 22d August, 1861, be and it is hereby rescinded, and instead thereof it be now resolved, That it be an ordinance of the council that no Fellow or licentiate of the college shall seek for business through the medium of advertisements or any other disreputable method, or shall consult with, advise, direct, or assist, or have any professional communication with any person who professes to cure disease by the deception called homœopathy,

or by the practice called mesmerism, or by any other form of quackery, or who follows any system of practice considered derogatory or dishonorable to physicians and surgeons.

"And be it furthermore resolved, that in the opinion of this council it is inconsistent with professional propriety, and derogatory to the reputation, honor, and dignity of the college, to engage in the practice of homœopathy or mesmerism, or any of the forms of quackery as hereinbefore set forth."

"It will be observed that this resolution was intended to confirm and comply with the recommendation of the Fellows, for it contains the words suggested by the college at large. It was also intended to obviate the legal difficulty which had been raised, and it does so by making the practice of homœopathy a matter simply of the condemnatory opinion of the college, while it leaves the consultation with homœopaths a subject of absolute prohibition and of collegiate censure. It will be seen, therefore, that while the council was obliged to modify its ordinance in deference with a law which it neither assents to nor approves, it was asked to do so in such a manner as to leave its disapproval of homœopathic practice as clear as ever, and to emphasize its prohibition of fraternization with homœopaths.

"To this motion an amendment was moved to strike out all words after the word 'method' in the fifth line, the effect of which would have been to withdraw all prohibition, and to license all forms of fraternization with quacks. We learn that after a prolonged debate, at which the whole council, save one, were present, the amendment was negatived without a division, and the motion unanimously adopted.

"Thus the Fellows of the college and its council have deliberately pronounced their determination not to tolerate in any form the professional association with quacks by those under their control; and we venture to hope that this decisive expression of opinion will settle the question for many years, and will be accepted by the homœopathic practitioners, and by those who covet the patronage of such persons, as a final verdict against them, and a warning that the surgical profession in Ireland will not 'touch the unclean thing' under any circumstances. We are gratified and even proud that the higher professional morality of Irish surgeons should have thus asserted itself, and we congratulate the profession on its escape from the proposition that all forms of quackery should be admitted to open public association with them. We are, of course, quite prepared for the howl of 'trades-unionism' which will be raised by the homœopaths, their medical backers, and by the very voluble old lady talkers who support these practitioners. Such a cry is the only possible answer to the emphatic pronouncement of the Irish College of Surgeons, but for any person who is informed as to the tenets of homœopathy it is no answer at all.

"We need not refer to the principles and practice of homœopathy further than to say that if they be even partially true, the therapeutics of scientific medicine must be a criminal deception fraught with death and misery to our patients. It is absolutely and physically impossible that a practitioner can truly believe in or honestly practice both systems, and it is against the dishonesty of attempting to do so that the Irish College of Surgeons has pronounced its anathema. Let us say, for the sake of argument, that homœopathy is

enlightenment and scientific truth, — the therapeutics of our profession are a system of stupid prejudice and rank ignorance. If this be so, it is right and wise to treat sick people with billionths, and to proceed to cure the disease with what makes the disease. Upon this question the Irish College of Surgeons has not sought to express any opinion, and will not enter into controversy, but it has a perfect right, without pronouncing judgment upon what we will suppose to be matters of scientific opinion, to declare that its Fellows and licentiates shall honorably fulfill their duty to their patients according to their lights.

"That duty cannot be honorably fulfilled if the physician or surgeon descends to a compromise with error, and, we will add, with fraud, in order to earn a consultation fee or satisfy the vagaries of the patient;

and it is against the dishonor involved in such a surrender of principle that the college has declared its ban. The council is the appointed guardian of the 'reputation, honor, and dignity' of the college, to observe which the Fellows and licentiates have sworn, and though one or other of these may forget that to which he has solemnly bound himself, the profession cannot forget what is due to itself. It owes to itself to keep even the skirts of its robe unsullied by contact with a monstrous deception, and it cannot fail to put away from its pale those who are soiled by such contact; and, in our opinion, the Irish College of Surgeons has done no more than its duty, and no less than was expected of it, when it holds out the penalty of its censure over those who might yield to the temptation."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 21, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	601	304	36.44	22.63	7.49	7.49	.67
Philadelphia.....	901,380	334	153	26.95	17.96	2.40	2.10	3.89
Brooklyn.....	564,400	285	157	35.44	27.37	8.77	5.96	.70
Chicago.....	—	241	150	45.64	29.88	7.88	4.98	1.24
St. Louis.....	—	160	78	26.88	16.88	1.25	—	1.88
Baltimore.....	393,796	137	75	29.20	13.14	4.38	4.38	2.19
Boston.....	363,938	197	104	43.65	32.99	4.57	5.58	2.03
Cincinnati.....	280,000	108	51	37.96	18.52	5.56	—	9.26
New Orleans.....	210,000	107	30	19.63	9.35	2.80	.93	—
District of Columbia.....	170,000	71	39	29.58	9.66	2.82	5.63	2.82
Buffalo.....	—	64	27	32.81	23.44	—	6.26	1.56
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,634	53	32	49.06	20.75	3.77	13.21	3.77
Milwaukee.....	127,000	52	35	23.08	17.31	7.69	3.85	—
Providence.....	104,862	39	18	38.46	25.64	12.82	2.56	—
New Haven.....	60,000	15	4	20.00	—	6.67	6.67	6.67
Charleston.....	57,000	24	10	20.83	16.67	—	—	—
Nashville.....	43,543	20	9	25.00	5.00	5.00	5.00	5.00
Lowell.....	59,340	35	26	48.57	42.86	5.71	—	—
Worcester.....	58,040	21	13	42.86	19.05	—	4.76	4.76
Cambridge.....	52,860	31	16	51.61	48.39	—	—	—
Fall River.....	48,626	27	19	3.70	—	—	—	3.70
Lawrence.....	39,068	30	16	40.00	26.67	3.33	3.33	6.67
Lynn.....	38,376	20	14	35.00	30.00	—	—	5.00
Springfield.....	33,536	15	1	13.33	—	—	—	6.67
Salem.....	27,347	25	13	44.00	44.00	8.00	—	—
New Bedford.....	27,268	18	9	44.44	38.89	—	—	—
Somerville.....	24,964	6	1	16.67	16.67	—	—	—
Holyoke.....	21,961	13	8	53.85	46.15	7.69	—	—
Chelsea.....	21,780	17	11	64.71	47.06	—	11.76	—
Taunton.....	21,145	4	2	25.00	25.00	—	—	—
Gloucester.....	19,288	17	7	29.41	29.41	—	—	—
Haverhill.....	18,478	6	4	50.00	50.00	—	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	11	2	27.27	—	—	27.27	—
Fitchburg.....	12,270	9	2	33.33	22.22	—	—	11.11
Eighteen Massachusetts towns.....	143,685	42	18	26.19	19.05	—	2.38	—

Deaths reported, 2855; 1458 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 982, diarrhoeal diseases 643, consumption 328, lung diseases 144, diphtheria and croup 127, typhoid fever 56, scarlet fever 49, malarial fevers 42, whooping-cough 33, cerebro-spinal meningitis 19, measles 13, small-pox three, erysipelas two. From scarlet fever, Chicago 12, New York seven, Philadelphia six, Baltimore, Cincinnati, and District of Columbia four, Providence three, Brooklyn, St. Louis, Boston, New Orleans, Pittsburgh, Milwaukee, Cambridge, Springfield, and Clinton one. From malarial fevers, New York and St. Louis 10, New Orleans seven, District of Columbia four, Chicago and Baltimore two, Boston,

Buffalo, Pittsburgh, Charleston, Nashville, New Bedford, and Chelsea one. From whooping-cough, New York eight, Baltimore six, Cincinnati four, Chicago and Pittsburgh three, Brooklyn two, Philadelphia, St. Louis, Boston, New Orleans, Nashville, Lowell, and Worcester one. From cerebro-spinal meningitis, New York five, Chicago, Cincinnati, and Worcester two, St. Louis, Baltimore, Boston, New Orleans, New Haven, Lawrence, Holyoke, and Holliston one. From measles, Chicago four, New York three, Boston two, Brooklyn, Cincinnati, Providence, and Lowell one. From small-pox, Philadelphia three. From erysipelas, New York and Pittsburgh one.

Thirty-three cases of diphtheria, 11 of scarlet fever, four of whooping-cough, one each of small-pox, measles, and typhoid

fever were reported in Brooklyn; diphtheria eight, scarlet fever three, in Boston; scarlet fever nine, diphtheria six, in Milwaukee; scarlet fever 12, diphtheria three, measles two, whooping-cough, erysipelas, and typhoid fever one each, in Providence; scarlet fever two, diphtheria one, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,045,440 (population of the State 1,783,812), the total death-rate for the week was 27.21 against 25.46 and 30.28 for the previous two weeks.

Total number of deaths increased; deaths under five increased; deaths from diarrhoeal diseases increased, all in about the same proportion.

For the week ending July 31st, in 149 German cities and towns, with an estimated population of 7,729,598, the death-rate was 32.2. Deaths reported, 5396; 3168 under five: pulmonary

consumption 432, acute diseases of the respiratory organs 239, diphtheria and croup 101, scarlet fever 73, typhoid fever 61, whooping-cough 59, measles and röteln 57, puerperal fever 14, typhus fever (Beuthen) one, small-pox (Berlin) one. The death-rates ranged from 15.6 in Carlsruhe to 47.6 in Chemnitz; Königsberg 36.3; Breslau 43; Munich 37.6; Dresden 29.2; Berlin 38; Leipzig 27.2; Hamburg 22.2; Hanover 25.1; Bremen 19.1; Cologne 36.3; Frankfort 26; Strasburg 43.3.

For the week ending August 7th, in the 20 Swiss cities and towns there were 56 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 19, diphtheria and croup five, measles one.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	8 P. M.	9 P. M.	Mean.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	Duration.	Amount in inches.
Aug. 15	30.006	61	70	55	74	68	84	75	W	NE	C	10	11	0	C	C	C	—	.01
" 16	30.340	60	72	47	89	42	67	66	SW	SW	SW	9	18	4	F	F	C	—	—
" 17	30.355	64	79	52	66	72	65	67	W	W	C	9	12	0	O	F	C	—	—
" 18	30.254	65	79	54	65	63	94	74	C	SE	C	0	6	0	O	F	H	—	—
" 19	29.957	68	76	58	89	44	74	69	C	W	NW	0	7	4	O	F	F	—	—
" 20	29.708	75	85	68	58	66	65	61	NW	C	SW	9	0	8	H	H	F	—	.01
" 21	29.712	74	85	68	66	68	84	73	SW	SW	W	10	15	5	F	O	F	—	.09
Week.	30.047	67	85	47				71	Southwest.									4 20	.11

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 21, 1880, TO AUGUST 27, 1880.

McKEE, J. C., major and surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 19, 1880.

WHITE, C. B., major and surgeon. His sick leave of absence further extended three months on surgeon's certificate of disability. S. O. 181, A. G. O., August 25, 1880.

AINSWORTH, F. C., captain and assistant surgeon. When relieved, to comply with S. O. 89, C. S., A. G. O., in his case. S. O. 100, Department of Arizona, August 10, 1880.

SKINNER, J. O., captain and assistant surgeon. Assigned to duty at Whipple Barracks, Arizona Territory, relieving Assistant Surgeon Ainsworth. S. O. 100, C. S., Department of Arizona.

COMEGYS, E. T., captain and assistant surgeon. Granted leave of absence for four months. S. O. 181, C. S., A. G. O.

POWELL, J. L., first lieutenant and assistant surgeon. Granted leave of absence for twenty days, permission to leave the department and apply for ten days' extension, provided he furnish an acceptable substitute, without expense to the United States, during his absence. S. O. 167, Department of Texas, August 19, 1880.

AMERICAN GYNÆCOLOGICAL SOCIETY. — Programme of the fifth annual meeting, to be held in the hall of the Law School, Walnut Street, near Fourth Street, Cincinnati, Ohio, September 1, 2, 3, 1880. The profession is cordially invited to attend the meetings. September 1st. Morning session at ten o'clock. Roll-call, reception of guests, etc. Papers. (1.) What is the Proper Field for Battey's Operation? By Dr. Robert Battey, of Rome, Ga. (2.) Two Cases of Anterior Displacement of the Ovary, simulating Internal Inguinal Hernia. Battey's Operation. By Dr. G. J. Engelmann, of St. Louis. (3.) Case of Ovariectomy complicated with Pregnancy. By Dr. H. P. C. Wilson, of Baltimore. (4.) Uterine Massage as a Means of treating certain Forms of Enlargement. By Dr. A. Reeves Jackson, of Chicago. Appointment of the nominating and auditing committees. Adjournment at one p. m. Afternoon session at three o'clock. (5.) A Case of Cataleptic Convulsions cured by Trachelorrhaphy. By Dr. R. S. Sutton, of Pittsburgh,

Pa. (6.) The Value of Quinine in Gynæcic and Obstetric Practice. By Dr. H. F. Campbell, of Augusta, Ga. Adjournment at five p. m. September 2d. Morning session at ten o'clock. (7.) The Instinctive (or Natural) and Physiological Position of Woman in Labor. By Dr. G. J. Engelmann, of St. Louis. (8.) Fifth Annual Address. By the President, Dr. J. Marion Sims, of New York. (9.) Occlusion of the Gravid Uterus. By Dr. J. A. Eve, of Augusta, Ga. (10.) Three Fatal Cases of Rupture of the Uterus, with Laparotomy. By Dr. W. T. Howard, of Baltimore. Adjournment at one p. m. Afternoon session at three o'clock. (11.) Extirpation of an Encephaloid Kidney. By Dr. W. H. Byford, of Chicago. (12.) The Hot Rectal Douche. By Dr. J. R. Chadwick, of Boston. Adjournment at four p. m. September 3d. Business meeting at nine a. m., with closed doors. Report of the treasurer and auditing committee. Report of the nominating committee and election of officers for 1881. Nominations for honorary and active fellowship by the council. Balloting on the same. Morning session at 10.30 o'clock. (13.) Secondary Puerperal Hemorrhage. By Dr. Theophilus Parvin, of Indianapolis. (14.) On the Diagnosis of Pregnancy in the Early Months. By Dr. J. T. Johnson of Washington. (15.) Ulceration of the Cervix Uteri. By Dr. T. A. Reamy, of Cincinnati. Adjournment at one p. m. Afternoon session at three o'clock. (16.) Freund's Extirpation of the Cancerous Uterus. By Dr. J. R. Chadwick, of Boston. (17.) A Supplemental Contribution to the Pathology of the Cicatrices of Pregnancy. By Dr. S. C. Busey, of Washington, D. C. (18.) Manual Dilatation of the Os Uteri as a means of inducing Premature Labor. By Dr. W. L. Richardson, of Boston. Adjournment at five p. m. Officers for 1880: President, J. Marion Sims, of New York. Vice-presidents, W. T. Howard, of Baltimore, Robert Battey, of Rome, Ga. Council, W. Goodell, of Philadelphia, E. W. Jenks, of Chicago, A. D. Sinclair, of Boston, A. J. C. Skene, of Brooklyn. Secretary, J. R. Chadwick, of Boston. Treasurer, P. F. Mundé, of New York.

BOOKS AND PAMPHLETS RECEIVED. — Wood's Library of Standard Medical Authors. A Treatise on Common Forms of Functional Nervous Diseases. By L. Putzel, M. D. New York: William Wood & Co. 1880. 8vo.

An Experimental Research on the Physiological Action of Drugs on the Secretion of Bile. By William Rutherford, M. D. With one hundred wood-cuts. Edinburgh: Adam and Charles Black. 1880. 8vo.

Lectures.

CLINICAL LECTURE AT THE HOSPITAL OF
THE UNIVERSITY OF PENNSYLVANIA.

BY WM. GOODELL, M. D.,

Professor of Clinical Gynecology in the University, etc.

A CASE OF UTERINE CANCER, WITH REMARKS UPON
TREATMENT.

GENTLEMEN,—Mrs. X. presents herself before you complaining of “whites,” frequent hæmorrhages, and failing health; and gives the following history: She is about thirty-five years of age, married, and has had two children, the younger being a little over eight months old. She has not had any miscarriages, and has been in good health until after the birth of this infant she speaks of. No especial difficulty was experienced in her delivery, and she had a good getting up. Her child is not with her, but she says that it is well nourished and as large as it should be for its age; she is still nursing it. She had not been subject to leucorrhœa, except occasionally after her menstrual periods, until about ten weeks ago, when she noticed a vaginal discharge which was of a watery character, and so copious that for a time she thought her urine was dribbling away. About two months ago she had quite a profuse uterine hæmorrhage, which appeared after sexual intercourse. It has been nearly constant ever since, sometimes, indeed, amounting to a flooding, so that she has lost a large quantity of blood. This partially accounts for her pallor and anæmic appearance, but not wholly. She has noticed for the last four weeks that the blood is clotted, and that, mingled with the discharge, are small pieces of flesh. With all this she has not suffered from any pain, yet her general health has failed, and she feels weak; this debility, however, she attributes to the nursing, for she does not feel as well now as she did when the child was born. She appears emaciated, and her skin is leaden and lacks the hue of health. She has, indeed, the appearance of one laboring under some cachexia. Pushing our queries further in the direction of her family history, we learn that her father is still living and is unusually vigorous; but that her mother had a malignant tumor removed from her eye, and subsequently perished with secondary tumors in the abdomen. The patient has several sisters, but none are similarly affected.

The history of the patient's disorder, the characteristic local discharges, and the profound systemic disturbance clearly point to malignant disease of the cervix uteri, which inspection only too fully confirms. She is aware of the nature of her affection, and has traveled for some distance in order to get my advice, and to obtain relief by operation, if I think it needful or expedient. A rest of several days in the hospital will be required previous to any interference, and in the mean time I shall decide upon what course to pursue.

For the purpose of convenience of inspection the patient has been placed in Sims's position, and, as I expose the parts with the duck-bill speculum, you can see the large fungous mass of exuberant vegetations springing from the cervix and filling up the whole upper portion of the vagina. This is the source of the copious watery discharge containing granulations; and

from this mass comes the hæmorrhage, which she tells us was first excited by sexual congress. I will now dismiss the patient to the ward, while I make a few observations upon her disorder from a clinical point of view.

The only difficulty that could arise in the diagnosis of epithelioma of the cervix uteri would be in its earliest stage. The frequent hæmorrhages, alternating with a strong-smelling, colorless vaginal discharge, containing pale vegetations looking like small fragments of macerated flesh, occurring in a woman of about forty years of age, or older, are suspicious symptoms. But the crater-like ulcer having a sharp edge and a dense, rough surface covered with granulations, which are easily broken off and easily bleed, and the form in which a friable fungous growth fills the cervical canal and projects from it into the vagina, equally disclose by digital examination the malignant character of the disease. The speculum even is liable to break off these exuberant granulations, and, indeed, sometimes causes troublesome hæmorrhage. Should the cervix feel like fibro-cartilage, and the os remain firm even after the introduction of a sponge-tent, we then have to deal with another form of cancer, more slow in its progress but not the less malignant; for it is generally held that epithelioma, especially the vegetating variety, is the least malignant of all the forms of uterine cancer, and the most amenable to treatment.

The distinction between the several forms of malignant invasion of the cervix possesses much pathological interest, but is far less important from our standpoint than the location and extent of involvement. Having determined their malignant character in general, the next step is to attempt to determine the extent of the disease, in order to decide the questions of treatment and prognosis.

However early the affection may be recognized, it is never too early to get rid of the diseased structure, always going beyond the limits of invasion in order to insure its entire removal. This may be accomplished by the écraseur, by the galvano-caustic loop, or by careful and thorough scraping with Simon's curette, and the scissors, or Reamy's gouge forceps. With these instruments the diseased structure is patiently scraped and cut away until healthy tissue is reached. The operation, however, is not completed until the excavation resulting is thoroughly cauterized with the actual cautery or by fuming nitric acid. This latter application need not be made until a few days later, when the sponge tampon introduced after the operation is removed. Since most of you have repeatedly seen me perform this operation, and since I shall soon operate on this woman before you, I shall not go into further details. The subsequent treatment by the mouth is the administration of arsenic, iron, and ergot. Abstinence from sexual intercourse should also be strictly enjoined, for it is liable to cause alarming hæmorrhages from the impact of the male organ on the ulcerated sore. At the first sign of a return of the disease medical advice should be again obtained. Should the disease prove to be so extensive as to forbid any attempt at another operation, much may still be accomplished for the relief of the patient by palliation. The constantly recurring hæmorrhages require ice-water injections or suppositories containing astringents, which can be employed by the patient herself. If these prove insufficient, a tampon of cotton-wool dusted with alum or tannin, or with dilute Monsel's solution, will be re-

¹ Lecture delivered, June, 1880.

quired; but it should not remain in position longer than about three hours, otherwise it may adhere to the friable vegetations and pull them away, causing fresh bleeding. The insufferable stench from some of these cases may be measurably made less overpowering by frequent vaginal injections of a dilute solution of potassium permanganate or of chloral hydrate. The latter I generally use, as I believe it possesses local anæsthetic in addition to its detergent and disinfectant qualities. The last resource of medical art, euthanasia by opiates, is all that can be offered to advanced cases, and when the sufferings are very severe it is a boon to be gratefully accepted and welcomed by the sufferer.

Total extirpation of the uterus by means of laparotomy is a desperate remedy which offers a chance of relief, but is only justifiable where the disease is strictly limited to a movable womb. This procedure has been recommended by Freund, and has been performed some twenty-eight times, with but nine immediate recoveries. Most of the latter cases subsequently perished from a recurrence of the disease. The prospect, you see, is not encouraging, but in such a fatal disease anything offering a ray of hope is eagerly embraced by the patient.

It is worthy of remark that malignant disease of the cervix occurs most frequently in women who have borne children, and, in my experience, in those who have met with a laceration of the cervix. These facts favor the view of its primary local character. But in addition we have the fact that its subjects are generally women in good health, who are ruddy and well nourished, until the cancer ulcerates. Then by absorption of the products of the disease they lose flesh and become leaden in complexion through a systemic infection sometimes termed the cancerous cachexia, but which in reality, it appears to me, is due more to septicæmia than to any specific impression by the malignant disease; for when the ulcerated surface is removed by an operation, their complexions invariably clear up and they gain flesh.

THE ETIOLOGY OF PERINEAL LACERATION, AND THE OPERATION FOR ITS RELIEF, WITH A CASE.

The next case is one for operation. Mrs. Y., twenty-five years of age, was confined three months ago, and was so unfortunate as to have an instrumental delivery, which left her in the miserable condition in which you see her. The perinæum was torn completely through into the rectum, the laceration extending for at least an inch up the bowel. As I separate the labia and buttocks you see this large cloaca; the perinæum has wholly disappeared, and the vagina and rectum end in one common opening. The effects of such a rupture as this place a woman in a very unhappy condition. In the first place, it is evident that the sexual functions are seriously impaired. Furthermore, the loss of control of the lower portion of the bowel, owing to the laceration of the sphincter ani, allows the involuntary escape of flatus, and also of the contents of the bowel, which, if at all liquid, soil the patient's person and clothing, and make her an object of loathing to herself. Need I add that the loss of support to the pelvic organs eventuates in prolapse of the uterus and its attendant ill health, so that unless some relief is afforded the afflicted patient is apt to sink into chronic invalidism. Shunned by acquaintances, repulsive to her husband, disgusting to herself, can any state be more abject and pitiable for a young

wife and mother to be in? Since the consequences are such, let me say a word or two upon the subject of the prevention of laceration of the perinæum. How can we prevent the perinæum from tearing? In the first place, inasmuch as a certain amount of time is required for the perinæum to soften (as it does to a marked degree during the descent of the head), we should endeavor to prevent the head from descending too rapidly. It is a hobby with me *not to support the perinæum*, as is generally recommended to be done. For many years I have practiced this plan, and have not paid any attention directly to the perinæum for the purpose of saving it. When the perinæum is very rigid it may be relaxed, as I have frequently succeeded in doing, by passing two fingers into the rectum as the head presses upon the perinæum, and making traction forwards, while with the thumb of the same hand I retard the descent of the head. This procedure brings the perinæum forwards without injurious counter-pressure, and favors the general diffusion of the strain throughout its entire extent, thus relieving the tension in the median line at the posterior commissure. The same manipulation makes the occiput hug the pubes, and favors the final extension of the child's head necessary for delivery. Other advantages, such as the fact that the procedure is not liable to be interrupted by involuntary movements of the patient, and the freedom of action allowed to the perinæum, are also worthy of consideration.

Where the laceration extends through into the rectum you will generally find that there has been a forceps delivery. This so frequently follows the use of forceps, especially in a primipara, that I lay down the rule of practice that, in general (and always with primiparæ), the forceps should be taken off as soon as the head rests upon the perinæum, unless some very positive reasons exist why the delivery should not at this stage be allowed to be completed by the maternal expulsive efforts. When laceration appears inevitable you may invite a "laceration of election" at the sides of the fourchette by an incision through the thin mucous membrane with the bistoury. Two such incisions, one upon each side, will often prevent, and they of course are much more amenable to treatment than, the ordinary perineal rupture.

After the labor is over you should examine the perinæum in every case of confinement that you are called to attend. Do not give remedies for a post-partum hæmorrhage that comes from the lips of a recent perineal wound, — for the transverse perineal artery may bleed freely, — but examine digitally, and if doubt exists inspect the parts. There is no question that small lacerations will often unite of their own accord, yet it is always best not to depend upon nature, but promptly to stitch the edges in apposition. There is also less danger of septicæmia if these stitches are introduced at once, and the raw surfaces saved from being bathed by the putrid lochial discharges. I advise you, therefore, as soon as the placenta is delivered, to close any existing laceration by several points of the wire suture. This is termed the primary operation, and for small or ordinary ruptures is very efficient, but for complete laceration it is not so successful an operation as the secondary one, performed after the expiration of several weeks or months. The fibrous or tendinous point where the sphincter ani joins the sphincter vagina, and into which the transversus perinei muscles are inserted, is called the central body of the perinæum, and

upon its integrity depends the support of the pelvic organs, since these muscles, with the levator ani, guard the inferior outlet of the pelvis. A laceration involving the perineal body, then, would naturally be followed by a gradual and progressive descent of the uterus under the pressure of the abdominal viscera, until, in protracted cases, the uterus may present the condition of procidentia and remain permanently outside of the body, looking not unlike a horse's penis. This condition is generally complicated by cystocele and rectocele.

The object of treatment in such cases is to restore by a plastic operation the perineal structure and posterior wall of the vagina, which form the principal supports for the uterus. In the primary operation this may be readily performed as follows: as soon as the placenta is delivered, and while the perineum is still benumbed by the pressure and strain to which it has been subjected, three or more stitches of well-annealed iron or silver wire are introduced through the edges of the gaping wound. The ends are then twisted, or clamped by a shot, although the latter method is less needed in the primary than in the secondary operation, because the parts are more relaxed and there will be less tension. About an inch from the margin of the wound is the line where the stitches should enter and emerge, each one, excepting the lowest, being also made to include the mucous membrane of the vagina near the edge of the laceration. The lowest stitch is entered below the lower angle of the wound, and is completely buried in the recto-vaginal septum. An anæsthetic is not often needed for the primary operation, since the parts are numb and insensible from the recent passage of the head. The urine must be systematically drawn with a catheter, while the bowels are kept bound by opium, until the sixth or seventh day. The bowels may be opened by a saline on the day after the stitches are removed, after which the use of mild laxative enemata may be of service in preventing any undue strain upon the recent cicatrix. If, upon removing the stitches, there is not primary union, we may still obtain much advantage by encouraging granulation. Indeed, it is not uncommon to find small or superficial lacerations filling up completely by granulation, without any aid from sutures. In all cases of laceration of the perineum it is incumbent upon the physician, in the light of our present knowledge of the causes of puerperal septicæmia, to employ frequent antiseptic and detergent vaginal injections, in order to prevent, as far as possible, the recent wound from being inoculated by the putrescent lochia.

The secondary operation may be performed at any time after complete involution of the parts has taken place, but it should not be too long delayed, on account of the train of evils that I have already referred to. It is better for the patient, however, to be in good physical condition, and for this reason I would prefer waiting until the period of nursing is over.

Our patient appears to be in excellent general health, and as she is not nursing I shall proceed at once to the operation. Yesterday her bowels were freely moved by oil, and this morning she has taken one grain of opium; this is done in order that the rectum shall be empty, and also because we shall require the bowels to be absolutely confined for the next week or ten days. She has taken a light breakfast, and will be kept upon a spoon-diet during her treatment.

The instruments I am in the habit of using are an

ordinary medium-sized scalpel, a pair of scissors slightly curved on the flat, a pair of forceps long-handled and rat-toothed, some perforated shot and a shot compressor, a blunt-edged perinæum needle, eyed at the point, silver wire, *serres-fines*, an ordinary suture needle and needle holder, and, finally, a self-retaining catheter, such as the Skene-Goodman, from which a small rubber tube may be carried to the urinal under the bed.

Having fully etherized our patient, she is placed in the "lithotomy" position, and the lower limbs, in a state of acute flexion, are supported by two assistants, while a third attends to the ether. It is also well to have a fourth assistant to sponge the wound, etc. The edges of the wound are now freshened by clipping off the cicatricial surfaces with the curved scissors, commencing at its inferior angle. Partly by snipping with the scissors and partly by dissecting with the knife a large raw surface is gained, somewhat resembling a red butterfly in its outline. From this surface there is free oozing of blood until the stitches are introduced as before described, and traction is made so as to bring the edges in apposition. The *serres-fines* are very useful during the dissection in checking any small vessel which bleeds too freely. After accurate coaptation of the wound you see how well the perinæum is restored. In a large proportion of cases this operation is perfectly successful, and the functions of the parts are wholly restored.

Great care is demanded during the after-treatment. A self-retaining catheter, however, may be dispensed with, provided the urine can be drawn regularly twice or three times a day by an experienced nurse, for it should not be allowed to dribble over the wound. The patient's diet is restricted to milk, eggs, toast, and animal broths, so as to prevent clogging up the rectum. On the seventh or eighth day I remove the sutures, with the exception of the lowest one, which may not be disturbed until the bowels have been relieved by an enema of four ounces of olive oil. This may be supplemented by a dose of castor oil, and if needed followed by a second clyster of soap and warm water. Afterwards, compound licorice powder may be given at night, or a teaspoonful of Rochelle salt in a large tumbler of water, taken early in the morning, in order to prevent constipation. The lowest suture may be removed on the tenth day. Sometimes, however, I remove all the stitches before opening the bowels.

In conclusion, let me impress upon you the truth that laceration of the perinæum is very largely due to precipitation in the second stage of labor, and more particularly to the hasty delivery by forceps. The practical deductions from this are to retard the head until the perinæum softens, to aid in extension as the head descends along Carus's curve, and lastly, as a rule, to take off the forceps when the head reaches the perinæum, so as to allow the final delivery to be completed by nature. This is safe practice, and as such I warmly recommend it to you.

— Says the *Louisville Medical Journal*: "Hirschsprung thinks that a demonstrable swelling beneath the border of the rib, especially upon the right side, of the consistence and shape of the kidney, which can easily be pushed upward toward the normal position of the kidney, and is freely movable forward and backward between the hands, cannot be mistaken for anything else."

Original Articles.

ON POINTS OF INTEREST IN THE CASE OF JENNIE P. CLARKE.¹

BY MEDICAL EXAMINER J. G. PINKHAM, M. D.

ON the 27th of February, 1879, at about five P. M., an old trunk containing a dead body, afterwards proved to be that of Jennie P. Clarke, of Boston Highlands, was found on the eastern bank of the Saugus River, in Lynn, a few hundred feet below the bridge on the main road leading from Lynn to Boston. The trunk had been weighted with several bricks, and three old porter bottles, one of which, by a curious miscalculation, as it appeared, was empty and corked, thus acting as a buoy. The nose of the victim had been severed by a clean cut, extending from the bridge downwards through bones and cartilages, with the obvious purpose of preventing the recognition of the body in case it should be discovered. That this mutilation was accomplished after death I assured myself from the fact that there was no injection of the edges of the wound, no retraction of the skin, and no traces whatever of the copious bleeding which must inevitably have occurred had it been effected during life.

The hair had been cut, recently and hastily as it appeared, inasmuch as the ends were irregular, and some loose masses adhered to the person of the deceased.

An autopsy held a few hours later developed the fact that the woman had died of peritonitis following, or accompanying, an abortion.

The probable conclusion that this was a case of criminal abortion was one readily arrived at; for the apparently desperate efforts made to conceal the body, and to prevent its identification if found, were in themselves a confession of crime. It was winter, and the frozen state of the ground would render secret burial difficult; an open burial could not be had without a certificate of death, which the guilty parties evidently could not well obtain without risk of exposure. The conclusion, then, that a crime had been committed having been reached, the problem of determining who committed it was one for the officers of the law, with the assistance, perhaps, of the medical examiner, to solve. The task proved in this case to be no easy one, the chief obstacle arising from the fact that for several weeks no identification of the body could be established; but detective skill at last triumphed; and the felony was laid at the door of one Mrs. Goodrich, who was practicing as a clairvoyant physician on Lagrange Street, Boston, a certain "Dr." Kimball, also of Boston, and another man, the supposed seducer of the girl, being named as accessories. These parties were promptly indicted by the grand jury, and the two former brought to trial in September, 1879. The array of evidence was overwhelmingly against the accused, but, thanks to our absurd system of jury trials, they were not convicted, the jury standing eleven for conviction to one opposed. The only reason the one obstinate jurymen would give for not agreeing to convict was that no one saw the parties perform the criminal act. A second trial, which occurred in October following, resulted in the conviction of Goodrich and Kimball, and they are now serving out their sentences, the former of ten and the latter of seven years' imprisonment. The

other accessory has never been tried. There was little of medico-legal interest developed at the trials, the principal line of defense adopted by the counsel for the accused not involving the necessity of overthrowing the medical testimony. It was shown, however, by the witnesses for the government, that Jennie P. Clarke was in the fourth month of pregnancy; that she left the place where she was at service in Boston Highlands on the 12th of February, and went directly to the house of Mrs. Goodrich, on Lagrange Street, where on the same day she was operated upon by Mrs. Goodrich, in some manner not ascertained, for the purpose of procuring an abortion; that at 9.30 A. M., on the following day, February 13th, she went to the house of Miss Forsythe in Somerville; that on her arrival at this place she seemed to be suffering from "a cold;" that on February 14th she was taken quite ill, and "had pains all through her;" that she aborted on the 18th, and, after suffering in the manner usual in cases of puerperal peritonitis, died at two P. M., February 25th; that on the 26th the nose and hair were cut off by Kimball, the body packed into the trunk, and, on the night of the same day, which was dark and rainy, taken in a carriage to the bridge before mentioned and thrown over the railing into the water.

So much for history. I come now to the consideration of some points of especial interest in this case. I do not think it necessary to weary you with all the details of the autopsy, but will bring out the essential facts, as they are needed in the discussion.

IDENTIFICATION OF THE BODY.

In their efforts to prevent the identification of the body the criminals in this case manifested considerable shrewdness in cutting off the nose; for the effect of depriving the face of this important feature is very largely to destroy its characteristic expression. I show at this point two pictures of Jennie P. Clarke, one taken when in health, the other from the dead body several days after the autopsy. In the latter the teeth appear much more than when the body was discovered, owing to some post-mortem retraction of the lips, but otherwise the likeness is quite accurate. While I was making the autopsy a member of the police force in Lynn confidently asserted that the body was that of one Miss C., who was known to be pregnant, who had declared her intention of getting rid of the fetus, and who had disappeared from among her friends some two weeks previously. She had preferred a charge of bastardy against a certain party, and thus these facts became known to the police, who had kept watch of her. In order to make assurance doubly sure, a brother-in-law of the young woman was sent for, and the autopsy suspended to allow him to look upon the face. He came in, excited and trembling, and after some hesitation declared his belief that the dead body was that of his wife's sister; but a few hours later she was found in a boarding-house, concealed from her friends and just recovering from an abortion. This was only the beginning of a long series of positive identifications, all but the last ending either in finding the person alive, or in the development of some other circumstance which disproved the supposed identity. One man from a neighboring town declared the remains to be those of his daughter who was missing from home, he being convinced to the contrary only by the discovery of the erring one in a house of ill-fame in Boston. Another man was sure

¹ Read at the Annual Meeting of the Massachusetts Medico-Legal Society, June 8, 1880.

that it was his niece, but she, too, was found. In my opinion these strange mistakes were the result of the peculiar effect produced by cutting off the nose. Had the mutilation been carried so far as to destroy all the features, those who were seeking to identify the body would have been obliged to depend upon some mark or scar, and in this they would be much less likely to be deceived, although such an occurrence would be quite possible. In death, of course, those peculiarities of expression which result from the play of the facial muscles, and from the eyes, are lost entirely. Jennie Clarke was of medium size, had tolerably regular features, and brown hair, — a description, in brief, which applies to a very large number of young women. Imagine these faces deprived of their living expression, and of their most prominent feature, the nose, and you can understand to what a condition of uniformity all would be reduced, and what confusion might arise from the attempt to identify. As it proved in this case the witnesses to the real identification, while asserting that they recognized the body from its general features, yet had all of them some mark or scar upon which they depended to fortify their conclusions. Among the points mentioned were a small, smooth, somewhat pigmented wart upon the back of the left hand; seven very small moles on the inner aspect of left fore-arm; a linear scar on the left side of the neck caused by the lancing of an abscess; the slight overlapping of the front teeth, etc.

With a stupidity only equaled by that shown in using a bottle empty and corked as a sinker, the girl's ear-rings had been allowed to remain in their places, the corresponding pendants being afterwards discovered at home. These were recognized by a number of persons, and formed an important link in the chain of evidence establishing the identity. Facts like these show the importance of noting, at the autopsy of an unknown person, every peculiarity of appearance, however trivial, that may in any way serve as a means of recognition. A similar importance, in my opinion, attaches to measurements of the body, the length of the arm, the circumference of the neck, of the chest over the nipples, of the waist and hips, the length of the body, a shoemaker's measurement of the foot, etc.; for in case of non-identification before the destruction of the body by the process of decay, these, as serving to show whether certain garments would fit the deceased or not, might be of the greatest value.

AGE.

The general appearance of the body of Jennie P. Clarke was that of a young person. The hair presented no trace of gray, the skin was fair and free from wrinkles, and the teeth in general well preserved. But this description, obviously, might apply to a woman anywhere from age of maturity to that of forty or perhaps forty-five, and could not be relied upon as furnishing data for any calculation approaching exactness. Owing, perhaps, to the effect of the final illness upon the face, the tendency in this case was to overestimate the age. Some even placed it between thirty and forty. But, as it happened, more reliable data for determining the age were furnished by the *dentes sapientiae*. On making a thorough examination, after relaxation of the jaws had occurred, it was found that the wisdom teeth of the upper jaw had emerged, while those of the lower jaw were still beneath the gums. One of the latter appeared to have been just on the

point of emerging, for on making an incision through the gum it came in sight. The wisdom teeth are said by authorities to appear usually between the ages of seventeen and twenty-two. They manifest, however, great irregularities in regard to the time of their eruption. An intelligent dentist informed me that he had been not unfrequently consulted by persons from twenty-five to forty years of age, who were having trouble with the eruption of their wisdom teeth. Occasionally one or more of them never appear at all, and they may emerge before the age of seventeen. They are liable to decay early, it being no unusual circumstance for them all to be lost within a few years after their appearance. In such a case one might, perhaps, be deceived by their absence into the belief that they had never appeared. So, also, if one of the other molars should be lost early in life, the gap in this way made might be filled by the eruption of the remaining teeth, and thus, there being but two molars present, the wisdom tooth, in the absence of any of the characteristic appearances of the crown, might be mistaken for the second molar, and the erroneous conclusion arrived at that the former had not emerged. The medical examiner, always on his guard, as he must be, against such sources of error, can make himself sure in regard to all these points by dissection. The conclusion in this case, based upon the statement of averages by the authorities, was that the girl was not far from twenty years of age, and this proved to be correct.

It was not thought necessary to seek for any additional evidence in regard to the age in the skeleton, for this would not perish for a long time, and could, if any important question should arise and make it seem advisable, be subsequently examined.

CONDITION IN LIFE.

The body was clothed in a coarse white cotton night-dress trimmed with Hamburg edging, and a cheap-looking merino under-vest. The person of the deceased had evidently been well cared for by herself during life, as the finger and toe nails were short and clean, while the ears, scalp, and teeth, parts usually neglected by the uncleanly, showed no traces of neglect. The hands were delicate, and there were no calluses upon the fingers or palms indicating that the deceased had been accustomed to any employment likely to cause a thickening of the cuticle. We could not thus exclude housework from the list of possible occupations, for the reason that the frequent soaking of the hands in soap and water, as in washing clothes and dishes, would have a tendency to prevent the formation of calluses. From the facts given we were, I think, justified in inferring —

- (1.) That the deceased was in humble circumstances.
- (2.) That she did not belong to what can properly be styled a low class.

That she was not a prostitute, unless, perchance, she might be just beginning a career of shame, seemed probable from the fact that she had aborted; for it is well known that confirmed prostitutes seldom conceive, or if they do, that they abort at the next succeeding menstrual period, as a result of the constant sexual excitement to which they are subjected, without being themselves aware of their pregnancy. And besides, the probability was extremely small that any such desperate efforts would be made to conceal the dead body of one who was known as a *nymphé du pavé*, for her bad character would in all likelihood be relied upon to pre-

vent any interest being taken in her death, or investigation made of its cause. As subsequently ascertained, Jennie P. Clarke was a domestic in a family of moderate means.

TIME OF DEATH.

Granted the complete cooling of a body, the time of death may be approximately determined by the presence or absence of cadaveric rigidity and of the signs of decomposition. In the case under consideration the body was, when discovered, frozen, the more exposed parts, as the extremities, quite firmly, those protected by the clothing to a less degree. Around the abdomen was a swathe and beneath this the flesh was very slightly frozen. All the joints were stiff, whether from the freezing or rigor mortis, or both combined, I was unable at the time to decide. In straightening out the body to place it upon the table nearly all the large joints, which were in a state of flexion, were forcibly extended; and these thereafter retained their flexibility; but when thawing of the flesh had occurred it was found that the jaws, and other joints which had not been disturbed, retained for a time their rigidity, thus proving that the rigor mortis had not departed. Caspar says, "The stiffness of a frozen body can never be confounded with the rigor mortis; for a frozen body is from head to foot as stiff as a board, while in cadaveric rigidity the extremities, particularly at the elbow and knee joints, always preserve a certain amount of mobility."¹ Surely he cannot mean this statement to apply to a partially frozen body, nor would he accuse of unpardonable dullness one who in such a case was unable to render an immediate decision.

The presence of cadaveric rigidity would place the body in the second period of Devergie, and lead to the inference that death had occurred from ten hours to three days previously.² But evidently great caution was to be exercised in drawing such a conclusion, because the extreme cold to which the body must have been subjected to produce freezing would, if it did not hasten the development of cadaveric rigidity, certainly retard its departure. A similar effect might be expected from immersion in cold water.³ At low temperatures (36° to 45° F.) bodies have been known to retain their rigidity for eight or ten days. Below the freezing point they might, perhaps, retain it much longer.

The body was quite fresh in its general appearance. There was a bluish-green discoloration of the loins, extending at some points over the abdomen nearly or quite to the median line of the body. The skin of these parts was elsewhere of a vivid red. A bad odor was perceived about the genitals, but the subsequent developments as to the cause of death showed that this odor could not reasonably be regarded as the result of post-mortem change.

A greenish discoloration of the abdomen is mentioned⁴ as the first sign of commencing putrefaction, and it appears, on an average, in from one to three days after death. But in estimating the value of this sign in any given case the temperature is obviously to be taken into the account. On the 27th of February, the day on which the body was found, the temperature, as recorded at the City Hall in Lynn, was, at eight A. M., 24° F.; at one P. M. 24° F.; at six P. M. 23° F.

¹ Forensic Medicine, vol. i. p. 30.

² Taylor's Principles of Medical Jurisprudence, vol. i. p. 89.

³ Ibid., page 56.

⁴ Caspar's Forensic Medicine, vol. i. p. 38. Taylor's Medical Jurisprudence, vol. i. p. 93.

The maximum for the twenty-four hours ending at eight A. M., February 28th, was 27° F., and the minimum 7° F. Thus we see that for twelve hours at least, previous to the autopsy, which took place at eight P. M., the body was exposed to a temperature considerably below the freezing point, and that any putrefactive change would be out of the question. This is based upon the supposition that the trunk had been in its position on the bank of the river during the whole of that day. This is measurably certain, because it had been seen quite early in the morning by a person who thought it a pile of drift-wood, or something of the sort. On the 26th of February the maximum temperature was 49° F., and the minimum 22.5° F. On the 25th the maximum was 35° F., and the minimum 15° F. Previous to this the weather was still colder. We could not of course tell with certainty in what condition the body had been kept before it was thrown into the river, but as the universal custom is to put dead bodies, lightly covered, into a cold room, with, perhaps, the windows open, we are at liberty, I think, to assume that this body had been kept continuously at a temperature which would render the process of putrefaction a very slow one. But there is still another circumstance to be considered. The autopsy proved the existence of an intense peritonitis. It is well known that those parts that are inflamed at the time of death take on the putrefactive process more readily than healthy tissue. Sometimes, indeed, it begins before death, as when gangrene occurs. And in this case, also, the septicæmia, which, perhaps, invariably accompanies puerperal peritonitis, would predispose the body still more strongly to the putrefactive change. The temperature of those dying of an acute infective disease is often very high. Is it not possible that the greenish discoloration of the abdomen in this case, the first sign of putrefaction, as it is called, might have arisen between the time of death and that of the entire cooling of the body? If we should allow the increased tendency to putrefaction resulting from the mode of death to offset the retarding influence of the low temperature, and fall back upon our averages, we should infer that death had occurred from one to three days previously, the same conclusion essentially as that arrived at from the presence of the rigor mortis. As it proved, the girl had, at the time of the beginning of the autopsy, been dead just fifty-four hours, two and one fourth days.

CAUSE OF DEATH.

The cause of death has been already stated as peritonitis following or accompanying an abortion. A brief statement of post-mortem appearances, taken in substance from the record of the autopsy, will show upon what evidences this conclusion as to the cause of death was based: On laying open the abdominal cavity a thin, bloody serum exuded. The peritoneal membrane was everywhere injected, and in places, particularly over and in the neighborhood of the liver, covered with a layer of lymph. The pelvic cavity was partially filled with a thin, fetid pus. The pelvic organs were matted together, and covered with a shaggy layer of lymph. On the left side was a sort of sac, formed by adhesions of opposed peritoneal surfaces, and filled with pus. This bag of pus was at first mistaken for an abscess, but a careful examination revealed its true character. The appearances described would warrant the inference that the inflammatory

process began somewhere in the pelvic cavity, and that it had extended, but a short time before death, to the parts above the brim. The proofs that an abortion had occurred may be summarily stated as follows:—

(1.) The vulva was dark-colored and open, and emitted a bad odor. The vagina was injected, intensely so in its upper part. The os uteri was patulous, sixteen mm. in breadth, margins soft and black.

(2.) The interior of the uterus was covered with a black, shreddy slime. On the right side, near the fundus, was a rough, raised, spongy-looking portion, obviously the point of a placental attachment.

(3.) The uterus was enlarged. Its dimensions, as given below, were taken after it had been kept for some months in alcohol, and must be regarded as slightly reduced from those which existed at the time of the autopsy:—

Outside length	125 mm.
Outside breadth (greatest)	80 mm.
Cavity of cervix, length	45 mm.
Cavity of body, length	65 mm.
Total length of uterine cavity	110 mm.
Breadth of cavity (greatest)	55 mm.
Thickness of wall, cervix	13 mm.
Thickness of wall, body	14 mm.
Thickness of wall at placental site, right side (not including the spongy mass)	17 mm.
Idem on left side opposite placental site	10 mm.
Idem at fundus (prolongation of line of internal measurement)	15 mm.

(4.) The ovaries were dark purple, and in the left was what appeared to be a true corpus luteum of pregnancy, it being superficial in location, firm in texture, easily enucleated, and presenting on section a bright orange-yellow, convoluted wall, 2.5 mm. in breadth, and a glistening white clot with a central cavity. Its greatest length was 21 mm., and breadth 14 mm.

(5.) The breasts were full, and presented areolæ of a light-brown color, with a few papules. On pressure milk exuded in considerable quantity from both breasts.

In view of all these facts it was to be regarded as certain, from a medical point of view, that an abortion had occurred, and that the inflammation which was the direct cause of death was its sequence.

MENSURATION OF THE THORAX BELOW THE DIAPHRAGM.

BY B. E. HADRA, M. D., SAN ANTONIO, TEXAS.

"WHILST in enlargements of the liver the width can be accurately made out by palpation, and the long diameter by percussion, the transverse diameter can only be approximately estimated by the increase of abdominal volume." The above quotation from Guttman's Handbook of Physical Diagnosis justifies the present attempt to contribute towards improved methods of measuring the thoracic organs below the diaphragm. And although, in the work referred to, as well as in those of a similar character, mensuration of the lower part of the thorax is considered of small account, I deem it of sufficient importance and clinical value at least to merit our attention.

Inasmuch as private practice does not afford opportunity for very extensive research, and especially as examinations of women are almost wholly excluded, the following remarks do not claim to be more than suggestions, and are drawn from observations limited to the male sex.

Mensuration below the diaphragm may be made in

order to compare the circumference in this region with that above, say at the line of the nipple. There will be found a constant difference, the upper circumference being considerably the larger. It is not my intention, however, to speak of this relation, but to compare one side of the thorax with the other, and to show how the comparison thus made can be rendered available as a means of diagnosis.

It is necessary to have standard or fixed points on the thorax, and it seems best to take the median line, immediately below the xiphoid process, as the point in front, and the opposite spinous process as the point behind. The proposed line would therefore strike the eighth or ninth lumbar vertebra and the corresponding rib at its extremities, and run above the middle of the right lobe of the liver. It is of obvious importance to take the measurement on both sides in the same stage of respiration. A further rule ought to be to let the patient stand or sit, and not to take measurement in the recumbent posture, though a difference between these two positions may turn out of diagnostic value.

Now, having dismissed these considerations, the next question is, whether there exists in the healthy condition a constant relation between the two sides. It has recently been found that there are many differences between organs or portions of the two sides of the body in health (lower limbs, for instance); it would astonish no one if the right side of the lower half of the thorax should prove larger than the left, the right lobe of the liver being considerably larger than the left lobe and the spleen taken together. Still, it is only in the minority of healthy subjects that there is much difference observable, a state of affairs which might be explained by the fact that a part of the right lobe reaches over to the left side. On measuring seventy-two healthy persons, both sides were found to be equal, or nearly so, in forty-six cases; in thirteen the difference in favor of the right side was one fourth inch; in seven it was three eighths inch; in four it was one half inch; and in two cases there was found to be a slight difference in favor of the left side. In view of these results, it would seem to be justifiable to consider a difference of not more than half an inch as a natural, normal condition, and any greater or less deviation as indicative of disease.

Doubtless the first objection urged against the proposed mensuration will be that palpation, concussion, and percussion suffice of themselves to lead to a correct diagnosis, and that mensuration is therefore a worthless suggestion. I shall endeavor to show that such is not the case.

As quoted above, the transverse diameter can only be approximately estimated by the increase of abdominal volume. Such is, at all events, the opinion of one good authority. It follows, therefore, that every additional mode which might aid us in arriving at a correct diagnosis is of value. Every one who is familiar with diseases of the liver, and the surprising results developed so often by post-mortem examinations, knows that percussion and palpation anteriorly do not reveal in every case the true size of the liver, as they give little more than the longitudinal diameter and the thickness of the edge alone, and only then when the edge is palpable at all; and still less reliable are the results of posterior percussion. There are many cases in which the transverse diameter is increased, and greatly too, whilst the longitudinal diameter may be found perfectly normal or with only a

trifling deviation therefrom; and *vice versa*. Here mensuration comes into play, and when it shall have been established as a regular mode of examination by physicians who have appreciated its advantages, the entire profession will soon recognize its value.

In order to systematize the proposed method, we might consider the cases in two classes, one in which the right side is relatively large, and the other in which it is relatively small. Thus we might adduce the following division:—

- I. Increase of right side:
 - (a.) Increase of right liver,
 - (b.) Decrease of left liver, spleen, or both.
- II. Decrease of right side:
 - (a.) Decrease of right liver,
 - (b.) Increase of left liver, spleen, or both.

Repeating that mensuration will be of value mostly when the usual means have failed to yield satisfactory information, it will not be necessary to consider the entire number of hepatic disorders, and we shall confine ourselves to such only as might be most benefited in their diagnostic recognition.

I. (a.) *Increase of Right Liver.*—Mensuration is of great importance in hepatitis with or without abscess, diseases which occur in our southern climate much more frequently than is commonly supposed, and generally as sequelæ of dysentery. And it might here be stated that the gravity of the hepatic affection is not by any means commensurate with that of the dysenteric symptoms. In many cases the dysentery may have been entirely cured and forgotten; and not before months and even years have elapsed, does the liver become the source of a worrying, debilitating complaint which presents itself in the form of "indigestion" or "dyspepsia." In such cases percussion and palpation rarely reveal a decided increase of the organ; there being at most an increase of the protruding border, anteriorly in the mesial line, near and under the sternum, and nothing else. But when one has recourse to mensuration, an increase will be found on the right side of from one to two and more inches, and the secret will at once be disclosed. This increase is so constant that it is the most important sign. Of course, it will not indicate the presence or absence of abscess; this must be determined by hectic fever, puncture, etc.; but it will be positive proof of the existence of hepatitis.

The following may be cited as an illustrative case:

Mr. H. B., aged thirty-five, complained of dyspepsia for about two years. Had dysentery four years ago, from which he recovered, as he thought, although he remained in feeble health. Had used different remedies for the relief of epigastric fullness, flatulence, poor appetite, and general debility. Examination revealed distention of the transverse and descending colon, the percussion note over them being highly tympanitic. Stools contained mucus in variable amount, oftentimes of ropy character. Liver seemed to be normal in size, at least so far as could be ascertained by percussion. Mensuration showed right side to be seventeen and one fourth inches, left sixteen inches. Diagnosis: chronic ulcers of large intestine and hepatitis, following dysentery.

In cases of similar nature mensuration gave:—

Right side, 16½ inches; left, 15 inches.
 Right side, 14½ inches; left, 13½ inches.
 Right side, 14½ inches; left, 13½ inches.
 Right side, 18 inches; left, 16 inches.

In the last case there seemed to be an abscess, as indicated by the presence of hectic fever. The liver reached downwards beyond the margin of the ribs about half an inch, was dense and somewhat painful on pressure. Puncture was not permitted. In the remaining cases percussion hardly showed any increase of the liver, except at the inner angle of the right lobe.

In cases of chronic hæmorrhoidal trouble an enlargement of the right side, as much as one inch, can often be found, and may, presumably, be in like manner detected in all other cases of impeded portal circulation.

Later, an increase of the right side will be found, due to fluid accumulations within the liver, or which have had their origin therein. In such cases mensuration, under certain conditions, will be of paramount importance. The question will sometimes arise as to whether a dullness above the normal region of the liver be produced by an accumulation in the pleural cavity, or by an enlargement of the liver itself. The difficulty of ascertaining the normal limits of the liver by percussion posteriorly is well known, and in cases where examination in front yields no result and where the organ is not enlarged downwards, the question has to be settled by other means. I have seen an excellent clinical teacher open an immense echinococcus tumor of the liver after having demonstrated to his class that nothing but an old pleuritic accumulation could exist. I had myself treated a man for the latter affection for a considerable period, when post-mortem examination revealed a large sac, filled with detritus and pus, formed by an old abscess of the liver. In such cases there may be no anterior enlargement, and posteriorly nothing is to be elicited by auscultation or percussion. There is dullness merging into the normal dullness of the liver, and there are no respiratory sounds in either condition. But here subdiaphragmatic mensuration shows at once whether the liver is involved or not. If there is an extraordinary increase of the right side below the diaphragm, then, of course, nothing but enlargement of the liver can be the cause of it. Pleuritic effusions might depress the liver somewhat, but never sufficiently to push it below the line of mensuration; in point of fact, effusions or enlargements on the posterior and superior surfaces of the liver press the diaphragm upwards and compress the lung. Thus, if we find an enlargement in the region of the eighth or ninth rib, we may conclude with nearly absolute certainty that it is caused by the liver. I venture to assert that the enlargement of the liver in its transverse diameter is a better and more certain guide than anterior downward increase, the estimation of which is accurate only when excessive, or otherwise when the previous condition is known to the examiner. The relation of the right half to the left is better fitted to form a standard than the relation of the right lobe to the margin of the last rib.

I. (b.) *Decrease of Left Lobe of Liver, Spleen, or Both.*—Little comment is called for in this class of cases. Shrinkage of the left lobe, or of the spleen, are the only possible changes, and both occur too rarely as idiopathic diseases and are of too little diagnostic importance to be seriously considered. Nevertheless the results of systematic research by mensuration might possibly lead to new and important discoveries in this direction.

II. (a.) *Decrease of Right Lobe of Liver.*—Subdiaphragmatic mensuration will be of value not only to show to what extent shrinkage may have already ad-

vanced, but under certain circumstances it will be almost the only means at our command of ascertaining the decrease in size. The liver might retain its area on its anterior surface, it might merely become flattened, in which case percussion would reveal nothing. Or, as in the second stage of cirrhosis, when extensive ascites exists, there is no opportunity for percussion, and mensuration is alone available.

A case of cirrhosis of the liver, complicated with cirrhosis of the right lung, showed two and one half inches in favor of left side, when subdiaphragmatic mensuration was taken. It is true, the spleen was enlarged, but on the other hand, the left lobe of the liver was pushed almost entirely out of the thorax, forming a tumor below the xiphoid process. (Case in the County Hospital; post-mortem examination made.)

Another case of cirrhosis gave only one inch in favor of the left side. General anasarca precluded a correct measurement, the finger making deep impressions in the skin, wherever the measure was applied.

I may mention yet another case, accidentally found when the patients of our County Hospital (under charge of Dr. Chew) were being examined with reference to the subject under consideration. In a man with an ulcer of the foot, who was of healthy appearance, the right subdiaphragmatic semi-circumference was smaller than the left by two inches, and percussion revealed contraction of the liver to an extraordinary extent. Still the man felt well. He was a hard drinker, and it would not be surprising to see him some day suffering from ascites, etc. This would point to the fact that the grave symptoms in cirrhosis of the liver do not establish themselves in some cases until the whole liver is degenerated; or that cirrhosis, in its so-called second stage, may exist without evident symptoms.

Decrease in size of the right lobe can be caused by contraction, succeeding to a healed abscess. As far as my knowledge goes, attention has never yet been called to such a condition. The following is the history of a case seen by me together with Dr. Carothers:—

Mr. H., twenty-three years old, suffering for two years from indigestion, general debility, pain in the region of liver, etc. Bowels had always been irregular. About half a year previously, something, as he says, gave way in his abdomen, and a large quantity of matter passed in his stools. After this he felt somewhat better, but still his appetite is poor, his bowels irregular, etc. Mensuration of right side shows one and one half inches less than left side. Percussion gives normal contour. Diagnosis: chronic ulcers after dysentery; abscess of liver, which had broken through into bowels; contraction of liver. Patient was sent to a mineral spring near by, and was doing well when last heard of.

II. (b.) *Increase of Left Lobe of Liver, Spleen, or Both.*—Here the apparently normal contour of the right lobe ought to be determined in the first place by percussion, palpation, etc. If it seem to be normal and if the difference in favor of the left side be striking, the spleen will have to be percussed, when, if found uninvolved, there must be an increase of the left lobe of the liver, or an additional cause for the increase, say an echinococcus or other tumor. There is no reason why the left lobe should not of itself become the seat of disease, the neglect of which seems to me to be due to the difficulty of observing and examining it. There are abscesses, for instance, involving the left lobe as well as the right, and why should they not form

in the left lobe alone? In this latter event the left lobe would be increased in size, and how should we ascertain this but by mensuration? And thus our proposition might help the long-neglected step-brother to its full rights.

These few lines are written in the firm belief that the suggestions are worthy of being thoroughly tested by some one who has better opportunities to study his cases ante and post mortem. It will more than reward me, if at least one point of those made should prove to be of practical diagnostic value to the profession.

SUPPLEMENTARY NOTE ON BORACIC ACID.

BY WILLIAM WARREN GREENE, M. D.,
Professor of Surgery in the Medical School of Maine.

SINCE the paper *Boracic Acid in Surgery* went to press certain facts have come to my knowledge which, though they may seem comparatively trivial, I yet desire to record as a sort of addendum.

While I was experimenting two days ago with boracic acid, Mr. Frank L. Bartlett, of this city, chemist and state assayer, came in, and on learning what I was handling made the remark, "It is very strange that so little is known of so remarkable a substance." He then informed me that he had experimented with it extensively in a quiet way, and I was gratified to find that his results and conclusions entirely coincided with my own views and with my knowledge, so far as I had investigated from a chemical standpoint. Mr. Bartlett's investigations have been in the same direction as Poli's, whose paper he had not seen or heard of, but his experiments were equally decisive, and his testimony to the efficacy of boracic acid as an anti-ferment, antiseptic, and preservative is quite as positive and convincing.

He—Bartlett—has found fresh meats, butter, vegetables, etc., perfectly preserved for an indefinite length of time by simply covering them with cloths wet in a solution containing only ten to fifteen grains of the acid to the ounce of water.

When we remember that boracic acid is innocuous, odorless, and practically tasteless, it seems to me that such facts should arrest marked attention.

I cannot avoid the suspicion that if great cost, offensive odor or taste, or any other striking peculiarity of a common character had obtruded it upon our notice, it would have ere this received much more consideration.

Mr. Bartlett's remarks brought to mind one fact that I intended to state in my main paper, but I forgot it, namely, that I have used to a considerable extent a combination of boracic and salicylic acids, both internally and externally, and while I am not prepared to claim any advantage from such union in any case, yet I think it desirable to test its quality in varying proportions, more especially as an internal remedy. The two solutions may be mixed, or the two crystallized acids may be fused at a high heat, forming a soluble boro-salicylic acid.

Again, in speaking with my friend E. Dana, Jr., of this city, a most excellent and widely known pharmacist, he suggested the substitution of cocoa butter for waxa spermaceti in making the boracic acid ointment, for the reason that wax is not only insoluble, but does not melt at the heat of the body, while cocoa butter

does. For some cases where adherence to the surface is unobjectionable this is a good plan, but the value of the wax is not only to give firmness, but to prevent sticking to the sore surface, which, mixed with vaseline, it does entirely. After considerable trial I have come to the following conclusions:—

(1.) In cases where an aqueous solution of the acid is not needed, or after its sufficient primary use, an ointment is the best form for continuous application.

(2.) In cases where it is especially desirable to avoid any adhesion of the dressing to the diseased surface the following is the best formula:—

R̄ Glycerit. acidi boracici sat. ¹	f3 ij.
Cerae albæ	
Cetacei	aa 3i.
Vaseline	3vi.

Melt the last three together, and add the glycerite with trituration.

(3.) *Unguentum acidi boracici.* Where it is essential to make the application as thorough as possible an excellent method that I often employ is to apply either the glycerite of the acid freely to the surface each time immediately before renewing the ointment, which may be done with a camel's-hair brush or by sopping, or if the glycerine is objectionable apply a mixture of pure vaseline with the glycerite (prepared by melting the vaseline, of course) of such strength as is desired, which mixture is soft enough to manage easily with a brush. Then the ointment, spread on some proper material,—there is nothing better than nice sheet lint, spreading on the soft side, as it holds so much and so firmly,—is applied over all.

If, however, adhesion is unobjectionable, as in non-suppurating or slightly secreting sores, requiring infrequent dressing, the following is excellent:—

R̄ Glycerit. acidi boracici sat.	f3 ij.
Butyr. coccom	3ij.
Vaseline	3vi.

Melt the vaseline and butter together, then add the glycerite with trituration.

It is well to know that this last preparation requires a long time comparatively—twenty-four hours at least—to cool, or rather harden to its *maximum*.

On the whole, I think the first formula—which is the one published in the first paper—will stand as the representative *boracic acid ointment*, as that which will best fulfill all the indications in the majority of cases, especially when supplemented in the manner I have described with the glycerite or the mixture of pure vaseline and the acid. But in many instances I have no doubt that the second formula will prove an advantageous modification of the regular ointment.

I am aware that after all I have in this note called attention to and emphasized certain points in my original paper rather than brought out anything really new, and if I seem inclined to press my subject with some persistence upon the notice of the profession it is because I believe it worthy of any degree of interest which I may be so fortunate as to awaken.

PORTLAND, August 30, 1880.

—The health department of Chicago are again after the milk dealers. The commissioner claims that he has good proof against the dealers, while the latter declare themselves innocent, and purpose fighting.

¹ It will be remembered that hot glycerine dissolves over three drachms of the acid to the ounce, and holds it perfectly on cooling.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

CONJUNCTIVAL SYPHILIDE.

A CASE reported by Sichel² is interesting from its extreme rarity. A man of twenty-eight years presented himself with the complaint of itching at the inner canthus of the right eye, and a sensation as of a foreign body. The inner part of the bulbar conjunctiva was moderately congested, and in the centre of the congested part was a small, oval, firm tumor, which resembled somewhat a developing phlyctenula, somewhat a pinguecula. Sichel only saw the patient nine days later. The tumor had then increased in size, was 13 mm. in transverse, 6.5 mm. in vertical diameter, of horse-shoe shape, its concavity toward the cornea, which it reached but did not encroach on, and situated on the inner and lower quadrant of the globe. It was but little elevated, its surface flattened, excoriated, with slight depressions, and covered with a grayish, muco-purulent secretion. It was elastic, and diminished in size under pressure. To close observation it appeared as if composed of a series of little elevations crowded together. There was much congestion of the tumor and its immediate neighborhood. No conjunctival secretion; no pain.

Inquiry and examination developed a history of recent infection, and a papular and papulo-squamous eruption on arms, body, neck, and chin. Six weeks of mercurial treatment brought about total disappearance of the conjunctival affection; other symptoms were still present.

PRÆCORNEAL TUMOR FOLLOWING EPISCLERITIS.

Manz³ describes a case of considerable interest from the change of character shown in the growth at its various recurrences. The patient, a man of fifty-seven years, was first seen in 1873. For several years he had suffered from inflammation in the neighborhood of both corneas, and of late a small tumor had developed at the lower edge of the right cornea, firmly attached only at the corneal edge. It was removed, and proved to be a simple granuloma. The inflammatory condition of the two eyes, a form of episcleritis with rather firm infiltration at the limbus and marginal opacity extending into the cornea, was treated for a time and improved temporarily. The following year, however, another, larger, and firmer tumor had appeared, a little more to the inner side than the first. This also was closely adherent only to the limbus, was removed without difficulty, and was of the same character. The episcleritis continued, and in 1875 the man had a granular conjunctivitis, mainly confined to the lids and fold. Then a dense, circum-corneal chemosis formed and was excised by peritomy. Some months later this swelling had returned, and by the end of December, 1875, a tumor covered the cornea to its centre, where perforation had taken place. The eye was enucleated, and the microscope showed now, besides formation of granulations, an active growth of the epithelium, which had begun to send prolongations backward.

In 1878, a tumor of some size, growing from the bottom of the conjunctival sac, apparently not involving the lids or surrounding skin, was dissected out to—

² Centralblatt für praktische Augenheilkunde, May, 1880.

³ Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1873.

gether with the conjunctiva, and early in the following year another recurrence necessitated evisceration of the orbit with the periosteum. Both these latter growths presented perfectly the character of epithelial carcinoma.

Not many weeks after the last wound had healed, a tumor was again found at the upper edge of the orbit, and the glands in the parotid region and at the angle of the lower jaw were infiltrated.

Manz does not think there was here metaplasia, that an epithelial cancer developed out of a granulation or sarcomatous growth, but that first a chronic inflammation led to the formation of granulations which took the shape of a tumor, then on this granulating surface an epithelial tumor arose.

CALOMEL AND IODIDE OF POTASH IN DISEASES OF THE EYE.

Although calomel has been somewhat extensively employed for many years as a local application in certain affections of the conjunctiva and cornea, no satisfactory explanation of its action has hitherto been given. More than forty years ago Fricke reported cases of severe inflammation of the conjunctiva from the local use of calomel while iodide of potash was being taken internally. Similar observations have been occasionally reported since, but they have excited little attention, and no warning against treatment by the two drugs simultaneously is to be found in the text-books.

The subject has been investigated by Schlaefke,¹ who gives the following conclusions as the result of his experiments:—

The fact that during the internal use of iodide of potash calomel excites severe inflammation of the external parts of the eye has been repeatedly demonstrated by clinical observation, has, however, always been again forgotten, and appears even now to be little known.

Iodide of potash, taken internally, is rapidly distributed throughout the system, appears in a very short time in the various secretions and excretions, and after a few minutes can be found in the tears.

Given twice daily in the dose of 0.5 gramme, iodide of potash is constantly present in the lachrymal fluid of man in demonstrable quantity.

Calomel is soluble in water to a very small amount; in a three fourths per cent. solution of common salt it is ten times as soluble.

Powdered calomel dusted into the conjunctival sac is gradually dissolved as such by the continual flow of fluid, and therefore exerts a chemical action.

If calomel be thus employed while iodide of potash is present in the tears, protiodide and iodide of mercury are formed.

Both of these, since they are soluble in the presence of salt or of iodide of potash, act as caustics, and excite a vigorous inflammation.

Therefore no outward application of calomel should be made so long as iodine is contained in the lachrymal fluid. Its application should not be begun until about a day after the last therapeutic dose of iodide.

HOMATROPINE HYDROBROMATE.

This new mydriatic, discovered by Ladenburg, possesses, according to Voelkers² and Fuchs,³ advantages

¹ Archiv für Ophthalmologie, xxv. 2.

² Centralblatt für Augenheilkunde, page 203, 1880.

³ Idem, page 182, 1880.

over atropine, so far as the comfort of the patient is concerned, in case it is necessary to dilate the pupil for ophthalmoscopic examination. Both experimenters used a one per cent. solution of homatropine. Voelkers obtained rather quicker and more lasting effects than Fuchs, probably from a difference in the amount used. The latter observed beginning of dilatation of the pupil in twenty minutes, the dilatation reaching its height in sixty to seventy minutes, diminishing again after two or three hours, and generally wholly gone in five hours. A weak solution of atropine (1-5000 or 1-10,000) was placed in the other eye of the same individual. This caused dilatation of the pupil to begin in some thirty minutes, but not always reaching the same degree as was produced by homatropine, and yet always quite evident at the end of twelve hours.

Paralysis of accommodation began at about the same time with each drug in solution of the above strengths, that is, ten to twenty minutes after instillation, and had disappeared at the end of five hours, but the paralysis from the atropine was never so great as from the homatropine. With neither, however, was paralysis of iris or accommodation complete.

SALICYLATE OF ESERINE.

While the sulphate of eserine rapidly loses its crystalline form and decomposes with some readiness in a watery solution, Merck has succeeded in preparing a salicylate of physostigmine (eserine) which remains crystalline and may be kept for a long time dissolved in water with scarcely any change. The action of the new salt on the eye appears from the experiments of Zehender⁴ to differ in an important respect from that of the sulphate. The latter, as is well known, besides its myotic action causes a strong tetanic action of the ciliary muscle. Zehender found the salicylate to cause rapid and great myosis, the maximum effect from one drop of a one half per cent. solution being reached in an hour, and its effect being still apparent at the end of three days. But though the experimenters, two of Zehender's assistants, complained of blurring and double vision while under the influence of the drug, no positive effect on the accommodation could be demonstrated.

Possibly a discovery by Harnack⁵ may help to explain this difference of action of the two salts. In calabar extract there exist two active principles,—physo-tigmine, which paralyzes; calabarine, which causes tetanus. Harnack showed that calabarine may be formed from physostigmine, and it may be that the action of sulphate of physostigmine on the ciliary muscle is due, in part at least, to some decomposition of the salt and formation of calabarine.

PRODUCTION OF FIBRIN BY IRRITATION OF NERVES.

Experiments of Gruenhagen and Jesner⁶ demonstrate that nervous influences, which they regard as probably vaso-motor, have a great importance in determining the chemical composition of the humor aqueus. Normal humor aqueus is wholly free from fibrin-ferment, and never spontaneously coagulates after its removal from the eye. But it always deposits a coagulum of fibrin after its removal from the anterior chamber if previously there has been irritation of the ophthalmic

⁴ Monatsblätter für Augenheilkunde, July, 1880.

⁵ Archiv für experiment. Pathologie und Pharmacologie, xii. 335.

⁶ Centralblatt für Augenheilkunde, June, 1880.

branch of the trigeminus. Thus the aqueous taken from a recently-killed rabbit coagulates spontaneously when, one half to three quarters of an hour before death, either the cornea, especially its scleral edge, has been mechanically or chemically irritated, or the ramus ophthalmicus bruised within the skull, or the posterior root of the fifth in the medulla oblongata cut. They explain this fact by the supposition that irritation of the ophthalmic branch excites dilatation of the vessels, and in consequence transudation of fibrin-producing elements.

They also have shown that an irritation of one eye which causes in it the secretion of fibrinous aqueous influences the other eye in a similar manner, though not in the same degree. Cauterization of the right cornea or bruising the right ophthalmicus is followed by secretion of fibrin in the anterior chamber of both eyes; in the left to less amount. The relation between such an experiment and sympathetic inflammation of the eye is evident, and it seems that here the purely nervous action of a stimulus applied on one side only causes a reflex effect on the nerves which dilate the vessels on the other.

NUCLEAR OPACITY OF THE LENS AFTER WOUND OF THE CAPSULE.

To study the manner of healing after a wound of the anterior capsule, Leber¹ removed through the cornea of a rabbit a piece of the capsule three mm. in diameter. Opacity in the whole area of the pupil followed, swollen lens substance pushed forward into the anterior chamber and was gradually absorbed, while a light iritis caused several posterior synechiae. Ten and a half months after the operation the animal died, and the eye was examined. There was a central cicatrix of the capsule, two mm. in diameter, from which a dense white opacity, like a thick plug, extended backward. The lens appeared a little shrunken; its central part was densely cataractous, but a peripheral, perfectly transparent layer, three fourths to one mm. thick, surrounded the opaque nucleus on all sides, except where the white plug united the latter to the capsular cicatrix. This transparent layer was sharply defined against the opaque portion, and after removal of the capsule could be lifted away as a whole, showing a round hole at the part corresponding to the plug. It possessed completely the consistence and structure of normal lens substance.

The explanation of the conditions found is that all the lens existing at the time of operation became opaque; then, after absorption of the swollen part which protruded, the wound cicatrized, and finally, since the animal was young, a new transparent cortical layer was formed. This layer could not, however, extend to the anterior pole, since the attachment of the cicatrix to the nucleus presented an obstruction. The likeness of this cataract to zonular cataract is increased by the fact that in the latter occasionally an opacity is seen which extends in an axial direction and ends in a central capsular cataract.

The case offers a strong support to Horner's theory of the production of spontaneous zonular cataract. According to this theory, at the time the cataract is formed the lens is in process of growth; the exciting cause of the cataract formation is active only for a short time, and affects only the most superficial layers. When the cause ceases to act fresh transparent layers

are formed around the opaque ones. Repetition of the process at an interval explains double or triple zonular cataract. But while Horner appears to have believed that the opaque layer is opaque at its formation, Leber points out the possibility that the opacity invades layers originally transparent. This supposition also would afford a satisfactory explanation of the origin of stationary nuclear cataract in the young, a form sometimes found in the same eye as zonular cataract, or in some members of a family, other members of which have zonular cataract.

OPERATION FOR ENTROPIUM AND TRICHIASIS.

The numerous operations devised for the relief of entropium and trichiasis testify at once to the frequency and troublesomeness of these affections and the insufficiency of the means employed for their cure. Hotz² discusses the mechanical agencies which give rise to them, and concludes that the failure of previous operations has been due to a mistaken idea as to the causal mechanism of the deformity and consequent misconception of the proper measures to be taken to correct it. He believes that in the majority of cases of inversion of the lids the free edge does not change its relative position to the eye-ball, and the so-called rolling in of the free edge is nothing more than an inversion of the external integument. The blepharospasm, which is an essential feature in the production of entropium, affects the skin rather than the tarsus.

Starting from these ideas he has conceived a new operation applicable to all cases where the normal curvature of the tarsus is not changed, and from which he claims to have obtained much better and more lasting results than from those formerly employed.

Whether all the theoretical considerations of the author are accurate need not be questioned here. The principle of the operation described seems to be a good one, the execution is simple, and in the practice of the reporter, also, has been effective in the few cases in which it has been tried, though sufficient time has not elapsed to prove the permanency of the result.

An incision is made through skin and orbicularis along the whole length of the lid parallel to and a little below (for the upper lid) the edge of the tarsus, the ends of the incision being two mm. above the commissures.

Then the skin at the lower edge of the wound is drawn down and a strip of the orbicularis three mm. in width cleanly dissected up and removed. Now four fine sutures are applied, passing first through the lower lip of the wound, then under the aponeurosis at the upper part of the tarsus and the fascia tarso-orbitalis, and finally through the upper edge of the wound. Care should be taken not to include any fibres of the muscle in the sutures. Cold water dressing for twenty-four hours and afterward cleanliness is all the subsequent treatment necessary. The sutures should be removed on the third day.

DEFECTS OF SIGHT AFTER NON-PENETRATING INJURY TO THE SKULL.

Berlin³ contributes a valuable paper on this subject. Very few confirmations of the anatomical cause of clinically observed cases exist, and these are of cranial fracture with injury of the opticus. In a very large proportion of cases the disturbance of vision is unilat-

¹ Archiv für Ophthalmologie, xxvi. 1.

² Archives of Ophthalmology and Otology, vol. viii.

³ Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1879.

eral. Characteristic of most of these is the suddenness, completeness, and incurability of the blindness. In only a small number of the unilateral cases is there improvement or restoration of sight. The bilateral cases offer a somewhat better prognosis.

The blow is in the majority of cases on the frontal bone, particularly the edge of the orbit, often on the root of the nose, the zygoma, the temporal bone, or the occipital. The force is always great. Gun-shot injuries form the larger part of the cases, blows or falls on the head the remainder. Decided symptoms of cerebral disturbance were observed in all known cases, with the exception of a few in which satisfactory data were wanting.

Among 126 fractures of the skull observed by Hölder, personally, were 88 of the base, and among these latter 80 (90 per cent.) fractures of the roof of the orbit.

In 54 cases the wall of the optic foramen was fractured, in 34 more or less directly by shot wound, while in 20 the fracture was continuous and caused by a fall on the head or shot in the forehead. Hæmorrhage into the sheath of the opticus was seen 42 times, but never without accompanying fracture into the optic foramen.

Considering that injuries to the skull which cause loss of sight are always severe enough to cause fracture, and considering the proven frequency of fractures of the roof of the orbit, and that many of these involve the wall of the optic foramen, the hypothesis is justifiable that the disturbances of vision in question depend in general upon fracture, especially upon fracture into the optic foramen. Such fracture must cause a direct lesion of the optic nerve, and a lesion of the nerve would most naturally explain the unilateral, sudden, complete, and permanent loss of sight. Hæmorrhage into the sheath might produce the same effect, and both processes may in some cases be combined. Bilateral affection of sight would seldom be due to fracture of the wall of both foramina, usually to fracture through the sella turcica. Probably in the cases in which sight returns there is intracranial or subvaginal hæmorrhage of temporary effect.

The different conditions seen with the ophthalmoscope also, the frequently negative result of examination at the beginning, the later atrophy of the optic disk, with or without formation of pigment, the arterial and venous disturbances of circulation in the retina, the retinal hæmorrhages, the retinitis and neuritis, may all be reasonably referred to a direct lesion of the nerve or an indirect lesion through hæmorrhage into the sheath.

SYMPATHETIC OPHTHALMITIS SETTING IN SOME TIME AFTER EXCISION OF THE EYE.

Nettleship¹ has reported two cases occurring in his own practice and a third in the practice of Mr. Cowell. The first case was in a phthisical man of twenty, upon whose eye the operation of extraction of a fluid, shrunken cataract had been performed. Intra-ocular hæmorrhage forty-eight hours later. The eye was excised ten days after the operation, no sympathetic symptoms being present. Healing as usual. Under the microscope inflammatory changes in the choroid, optic nerves, and retina were found, but only doubtful changes in the ciliary nerves. Twenty-two days after excision sympathetic disease began, with failure of

sight. When seen, a week later, there was neuro-retinitis, and shortly afterward severe irido-cyclitis set in. General and local treatment without avail; the eye became glaucomatous, and, in spite of a free iridectomy made six months after the onset, finally blind.

The second case was one of rupture of the sclerotic in a man of sixty-seven. An hour after the accident there was blood in the anterior chamber, but good perception of light. The wound was united with a suture and ice applied. The eye became inflamed, and was excised nineteen days after the accident. Healing as usual. Twenty-three days after excision some pain in the other eye, and on the twenty-ninth day acute iritis, followed in a week by extensive detachment of retina. The eye recovered in two months, and six months later was as good as before, the retina having become reappplied.

In the third (Mr. Cowell's) case, a boy of eleven had a jagged wound near the corneal margin, with adhesion of iris, followed by softening of the eye and purulent cyclitis. Excision twenty-four days after the accident, and healing as usual. Inflammation of the other eye began about twenty-five days after excision, and the boy went through a sharp attack of iritis. Numerous adhesions formed, but the eye recovered fair sight (No. 14 Jaeger).

Nettleship had found only six similar cases published. Of these, aside from one doubtful case, the longest time that elapsed between enucleation and the onset of sympathetic disease was forty-one days; in the others the interval was eight days or less. It might be a question whether the sympathetic disease in these cases was set up by the damaged eye or by the operation for its removal. If the latter, then we should expect occasionally to see it coming on at very long intervals after excision, and this had not been observed. It would probably be equally severe as the ordinary cases, whereas of the nine cases six are known to have recovered; and we should expect some inflammation of the orbital parts to occur between the excision of the damaged eye and the onset of disease in the other, and this had not taken place. Doubtless the process always started from the damaged eye, and had in such cases as these already, before excision, traveled so far beyond the exciting eye as to be beyond the surgeon's reach. The mildness of the induced disease in most of the cases shows, however, that removal of the injured eye, even after its excitant influence has begun to travel, may be of some use in preventing its further action. It is interesting that the induced inflammation appeared to begin as neuro-retinitis in four of the nine cases, but this does not necessarily point to the optic nerve as the path of the disease, for inflammation of the ciliary nerves at their entrance into the eye, leading to choroiditis near the optic disk, would sufficiently account for the appearance noticed.

MENTAL BLINDNESS AND HEMIOPIA.

Munk, after removal of certain parts of the occipital lobes in dogs and apes, observed a peculiar disturbance of the visual function, to which he gave the name of mental blindness (seelen-blindheit). This he attributed to a destruction of those brain cells in which the memory of visual impressions received by the animals had been stored up. His views excited a good deal of attention. Maunhner² criticises Munk's theory, points out certain inconsistencies in it, and explains the vis-

¹ Medical Times and Gazette, vol. i., 1880, page 437.

² Wiener med. Wochenschrift, 26, 27, 28, 1880.

ual disturbance on simple physiological principles. By the operation a part of the visual centres were destroyed, rendering the central district of the retina incapable of performing its function. That this last was the case is shown conclusively by Munk's own statements. The animals were in a condition analogous to that of a man with central scotoma while peripheral vision is preserved. Such a condition readily accounts for all the phenomena observed, without recourse to any new hypothesis.

But while the theory which Munk based upon his observations is fallacious, the observations themselves, whose accuracy is unquestioned, are of great value in another direction, inasmuch as they give a strong confirmation, not only of the partial decussation of the optic nerves in the higher animals, but also of the idea that the proportion of fibres which do not cross to the opposite eye is the greater, the less is the relative divergence of the eyes.

CHROMATIC HEMIOPIA WITH APHASIA.

Galezowski described, a few years ago, three forms of visual affections occurring with aphasia: amnesic amblyopia, where, although there is no diminution of acuteness of vision, the patient can neither read nor write from lack of memory of letters, and there is also loss of memory of colors; homonymous hemiopia, a very frequent defect; and atrophy of one optic disk.

He now¹ reports a case essentially different from the preceding forms, the lesion being presumably of syphilitic origin. The patient had right hemiplegia and aphasia, from which he recovered, but the following year was affected with incomplete left hemiplegia, aphasia, and paralysis of the left facial. He complained of enfeeblement of sight, but nothing abnormal was to be seen in the eye, acuteness of vision was perfect, the field of vision was normal, and his difficulty in reading and writing appeared attributable only to rapid tiring of the mental faculties. The remarkable part of the case was that in the internal half of the field in each eye, from a short distance to the inner side of the point of fixation, all colors were confounded with white except ultramarine blue, this last being well recognized.

Thus the patient, preserving perception of colors in the central part of the field, had lost it in the two internal halves, making crossed hemiopia for colors.

Galezowski thinks the phenomenon cannot be explained by an alteration of the tracts or of the corpora geniculata, but that the syphilitic lesion must have been situated at the spot where the external fibres of the optici, those which do not cross in the chiasma, unite behind the tubercular quadrigemina in the place indicated and supposed by Charcot.

SPONTANEOUS PULSATION OF THE RETINAL ARTERIES.

Of seven cases of pronounced exophthalmic goitre Becker² found in all but one spontaneous pulsation in the retinal arteries. In an eighth case, with but slight enlargement of the thyroid, and in which there was only occasional though severe palpitation, and now and again some exophthalmos of the left eye, the arterial pulsation was seen in this eye during the exophthalmos, but was not present in the right. This case is said to have been cured, and one of the others very

much improved, by the employment of the constant current.

The occasional occurrence of the arterial pulsation in healthy individuals may be attributed in some instances to a particular arrangement of the vessels; in others it seems to find an explanation in an atonic condition of the vessel walls. Thus it is frequently to be observed in chlorotic girls. The idea that the pulsation in such persons, also in exophthalmic goitre, is dependent upon paralysis of the nerves of the vessels is supported by the case of a lady with a variety of nervous symptoms, in whom the pulsation was now present in one eye, now in both, and again in neither. Here there was no heart affection, but her physicians had repeatedly observed that from time to time, on various parts of the surface of the body, larger or smaller red or even bluish patches appeared, remaining visible for minutes, hours, or days, and then vanishing without leaving a trace. These must have been caused by vaso-motor disturbances.

Hospital Practice and Clinical Memoranda.

CLINICAL MEMORANDA.

BY PROF. A. JACOBI,

Of the College of Physicians and Surgeons, New York.

"How old is this boy?"
 "Fifteen years."
 "What is the matter with him?"
 "He has the nose bleed, and he has a pain in the pit of his stomach."
 "How often does his nose bleed?"
 "Twice a day."
 "And how long does your nose bleed at a time?"
 "From ten minutes to three quarters of an hour. It comes drop by drop; never in a steady stream."
 "And how long have you had this pain?"
 "Ever since the bleeding at the nose commenced."

As you look at the boy you see he is sallow, anæmic. The subclavicular regions are depressed. The veins of the upper portion of the thorax are rather larger than normal. There must be some reason why they are enlarged. There must be some impediment to the circulation so that the cava superior cannot discharge its contents into the heart. There must be some obstacle either in the lungs or in the heart. If you find not only that these veins are of large size, but also that it is only the veins of the upper portion of the body which are enlarged, you would not then be surprised to find headache from passive congestion, also pharyngeal catarrh from the same cause, and also a passive congestion of the mucous membrane of the nose. There is in the Schneiderian membrane an extensive venous net-work. If it is overfilled with blood the smaller capillaries rupture easily, and so it is that nose bleed is a very common occurrence. So anything which obstructs the circulation may cause the nose to bleed. Constipation may give rise to it by the influence which that condition exerts on the abdominal circulation. Nose bleed is common in school-children who stoop over a great deal, for the same reason, because a stooping posture obstructs the abdominal circulation, and you can often stop a habitual epistaxis in such cases only by taking them out of school, and letting them run about. It is due to the sedentary

¹ Gazette des Hôpitaux, February 21, 1880.

² Monatsblätter für Augenheilkunde, January, 1880.

life. When, however, the veins are permanently enlarged, as they seem to be in this case, then you must look for something in the heart or lungs which would give rise to this obstruction. Let us examine this boy's body, and see what we can find by percussion and auscultation. The spleen measures some four inches by three and one half inches, which is too large. This hypertrophy may be due to impeded circulation, or it may be the result of malarial complications, or it may be an enlargement following typhoid fever.

"Have you been sick lately?"

"I had inflammation of the lungs three years ago."

Let me continue the physical examination. At a point just below the margin of the ribs on the right side, I find pressure gives him pain; also here is another painful region in the epigastrium, just beneath the ensiform cartilage, and another on the left side and in the abdominal cavity, in a line with the umbilicus, and half way between that and the ensiform cartilage. As I mark out these various places with the crayon, there is, you see, a triangular territory over which any considerable pressure causes the boy to wince. Pressure on the bones or intercostal spaces gives no pain, but as soon as I press below the margin of the last rib the pain is evident. The pain corresponds exactly to the portal region, the region where the gall ducts and portal vein run, and also over the left lobe of the liver.

"You go to school, I suppose?"

"Yes, every day."

"For how long a time?"

"Five hours a day. I have no recess."

That is altogether too long a period for children to remain in a sitting position, stooping over their desks, as they do.

As I percuss the region of the heart, I see at once that there is some enlargement, and it does not extend to the left, but the dullness is beyond the right margin of the sternum. If there is enlargement it is, then, enlargement of the right side of the heart. That might be the result of regurgitation or incompetency of the mitral valve, and if we find a murmur present in this case the diagnosis is clear, provided it does not extend over towards the aortic orifice. If we find no murmur we must look for some other cause for the hypertrophy. The heart sounds are not quite normal, but there is no murmur. If I hear no murmur in the carotids then I shall decide that it is functional. I hear about an equal murmur. I think it is functional. It is necessary to have a very high degree of anæmia in a child to produce an anæmic murmur, and you ought not to call murmurs in a young child functional, for they are almost always organic; but in a boy of this age—fifteen years old—you may reason pretty much as if he were an adult, and I think the sounds which I hear are functional. The hypertrophy might be the result of overexertion, for overexertion will produce hypertrophy of the heart muscle, just as it will of a muscle in any other part of the body. Overexertion on the part of the heart might be occasioned by any great impediment to a free circulation of the blood in the lung. If a large portion of the lung is impermeable to the blood, it requires very great labor on the part of the heart to get rid of its blood. In disease of the lung the heart has to labor hard to get the blood through the lung, and so when you have chronic disease of the lung involving partial permeability, the heart has to overexert itself to force the blood onward,

and as a result of this overexertion you have hypertrophy. As I percuss the chest I find that there is a certain amount of dullness anteriorly and posteriorly over the whole of the right side, and there is also diminished respiration posteriorly, and coarse respiration in the anterior portion of the lung, pointing to induration of pulmonary tissue. There is also some thickening of the pleura, but not much, and in different portions of the lungs we can say from the different character of the sounds that there is a difference in the character of the induration. This change in the lung tissue is the result of a pneumonia, and such a condition is competent to produce hypertrophy of the heart from the obstructed circulation. It also accounts for the persistent epistaxis from which the boy suffers, and for the same reason. The pain in the region of the liver is due to the same cause; the vena cava inferior being obstructed, there is a swelling of the liver from that cause. In obstructed circulation from any reason the liver is almost the first organ in the body to swell, the numerous blood-vessels and veins dilating from the backward pressure of the blood, and so increasing the size of the organ. When the obstruction is temporary the organ diminishes in size rapidly, but when the impediment is permanent the dilatation becomes chronic and effusion takes place, and as a result real chronic hypertrophy of the liver. Now when the liver increases in size it is evident that the peritonæum which envelops it must stretch, and this stretching, together with a hyperæmia of the superficial veins, gives rise to the pain in the region of the liver, which is probably due to the fact that the peritonæum does not stretch as rapidly as the liver swells. On percussion, the painful region is seen to correspond exactly to the area of the liver, and it is evident that there is also an enlargement of the liver. Thus it appears that as a consequence of the dilatation of the blood-vessels the contents of the peritoneal bag are too large for the bag, and there is pain as a result. The spleen is also enlarged. It is not a very usual thing to find the spleen enlarged as a consequence of heart or lung trouble. When it does exist, accompanying these diseases, it is not direct, but the result of the liver trouble. A chronic enlargement of the spleen is also consequent upon the shrinking process which takes place in cirrhosis of the liver.

"Have you ever passed blood?"

"Yes, four summers ago."

"Was it of a red color?"

"Yes."

"Did you pass much?"

"No, it came only in streaks. It lasted all summer."

Red blood would not be the result of hæmorrhages in the upper portion of the intestine following morbid processes in the liver. When blood passes from the upper portion of the intestinal canal it is black, tarry; but when it comes from the rectum it is red. The liver, however, might have been the indirect cause of these bloody evacuations, because obstruction of the liver and congestion of the hæmorrhoidal vessels go hand in hand. If, however, he had bloody specks in his passages then we ought to have the following suspicion, namely, that they might have been due to merely local and superficial ulcerations in the rectum, from which there might have arisen a metastatic abscess in the liver. Most of the hepatic abscesses we meet with in our climate are the result of dysenteric ulcerations. A hepatic abscess, however, does not

usually last four years, and there ought to be more symptoms of constitutional disturbance, such as elevation of temperature, whereas his temperature is normal. I do not think that there is any such condition here; nevertheless it is a suspicion which ought not to be lost sight of. The boy says that he has also spit blood, but I hear no cavernous or bronchial respiration, and these trifling hæmorrhages are apt to come either from the pharynx, trachea, or nose.

Not what the patient comes here for is to be relieved of this epistaxis, and what must we do for that? If it is copious it must be stopped. It is a bad plan in such a case to use insufflation of ice water or simple cold water, for the openings in the capillaries are closed up by coagula, and the more you wash out the nose the more likely are you to remove these plugs which stop up the openings in the blood-vessels. Oftentimes astringent injections do good, and for that purpose you may make use of solutions of the subsulphate of iron, insufflations of tannic acid, or the application of styptic cotton. In bad cases, where these remedies are of no avail, you will have recourse to Belocque's tube for plugging the posterior nares. So much by way of local treatment.

As regards the condition which is the primal cause of these various symptoms, you will attend to the circulation and see that it is free, that the boy wears nothing tight about him. Make him respire freely and fully, and fill his lungs, so that as much blood goes to the large cavities of the body as possible, thus relieving the congestion of the nasal and pharyngeal cavities. The indication is to do away with the cause of the obstruction, which in this case is in the lungs, and secondarily in the heart and liver. The lungs have been diseased a long time, and at this late period it is not possible that the interstitial inflammatory products can be entirely removed. If they were the result of syphilis, of course mercurial treatment would do good, but that is not the case here. Besides, the boy is anæmic, which would contra-indicate a protracted mercurial treatment. Neither the iodides of potassium nor of sodium would be suitable in this case. The iodide of iron, however, may do good, which is easily digested. The condition of the heart must be attended to, and in such cases a combination of iron and digitalis often relieves the epistaxis at once. In mitral trouble it will often cease after the first few doses. A boy of his age will take at least five or six grains of digitalis a day, or of the fluid extract two minims three times a day.

The muriate of iron is not exactly contra-indicated, but yet its excitant effect is to be feared, and I think it ought not to be given because it is certainly a vascular stimulant. Instead, we may order the saccharated carbonate of iron, or the new preparation, dialyzed iron, or the pyrophosphate of iron in five grain doses combined with the subnitrate of bismuth; for certainly his stomach must be in a bad condition because of the condition of his liver. There must be venous obstruction there. If there was an abscess of the liver here, the temperature would certainly be higher than $99\frac{1}{2}^{\circ}$ in the rectum, but, as I said before, we ought to be sure that we can exclude that. The more suspicious you have the better for your case, for you have only to exclude them if they prove erroneous. As there is here only a swelling of the liver, and not as yet probably serious structural changes, I should rely for that on the digitalis and on cold applications, changing

them frequently, say three or four times a day. Bismuth will relieve the gastric catarrh.

The liver will swell after every meal when in a normal condition; when it is in an abnormal condition it will swell more. Of course the general comfort is interfered with in that case because of the abnormal condition of the stomach. You must rely, however, for treatment on the palliatives I have suggested and on the general directions which have been given as regards the condition of the primal disorder in the lungs and heart. Let him avoid stimulants and take digestible food only and slowly, milk with salt, milk and barley, milk and oatmeal, an egg or two soft boiled, beef-tea, and toast.

Recent Literature.

Contributions to Orthopædic Surgery, including Observations on the Treatment of Chronic Inflammation of the Hip, Knee, and Ankle Joints by a New and Simple Method of Extension, the Physiological Method, and Lectures on Club-Foot. By JOSEPH C. HUTCHINSON, M. D. New York: G. P. Putnam's Sons. 1880.

A neat little volume bears this title. The latter half is an essay on club-foot and is an addition to the American literature of the subject, being more thorough than Dr. Sayre's monograph, with which in style and size it can be favorably compared. The anatomical details and the principles of treatment are well presented. The author recommends the use of plaster-of-Paris bandages, as furnishing an efficient and convenient means of retention; he insists on the importance of manipulation as an essential auxiliary, believes in the use of tenotomy except in the simplest cases, restricting, however, the operation to the division of the tendo Achillis; he advises early treatment. Unlike many of the best American authorities, he defers any attempt to stretch the divided tendon until four days after tenotomy.

The first half of the book contains a description of Dr. Hutchinson's well-known method for the treatment of joint disease, already mentioned in the JOURNAL. Great credit is undoubtedly due Dr. Hutchinson for his originality in his advocacy of the "physiological" method; it is to be regretted, however, that in presenting an innovation in surgery he has not collected a greater number of confirmatory facts. No cases are mentioned of disease of the knee or ankle joint treated according to the author's method. Of the seven cases of hip disease treated successfully, two are apparently light cases (perhaps synovitis of the hip joint, in which the course is frequently short); the others are not reported as fully as is desirable, nor is the result some time after discontinuance of treatment given. The fact that the kindred affection, chronic disease of the shoulder, elbow, and wrist joints, has been treated according to the "physiological" method by the afflicted themselves from time immemorial with but moderate success does not seem to have occurred to Dr. Hutchinson. Although the writer states that mechanical extension, including the weight and pulley, "irritates the muscles and stimulates them to contraction," he advises its employment during the acute stage, when the greatest care should certainly be employed to prevent such contraction. He considers apparatus cumbersome, and to be abandoned, as the desired re-

sult can be obtained in a simpler way, yet he recommends the use of the cumbersome Darrach's wheel crutch to prevent those too young or too old for ordinary crutches from bearing weight upon the diseased limb. The practical difficulties met in the use of the "physiological" method, the facts that young children are liable, if not certain, after a while to lay aside their crutches, and, unless watched constantly, to momentarily bear weight upon their limb, and that the contraction of the limb is not prevented in certain cases treated in this way, are not referred to by the writer.

The reviewer is more inclined to accept Mr. Adams's opinion, "There can be no doubt of the great value of your suggestion, . . . but the case and the stage must be selected," than to agree with the writer that the "physiological" method is superior to all others for all cases and stages except the acute.

When the celebrated Mr. Jack Horner made his famous investigations upon the Christmas pie, he obtained immortality because he represented the unfortunate human tendency to announce a discovery before fully considering its actual worth. If Dr. Hutchinson thinks that the essential morceau of the hotch-potch of the therapeutics of joint disease is the "physiological" plum, it is certainly to be hoped that he is right, but it is to be feared that other less attractive ingredients are needed to make up the pudding.

A Treatise on Comparative Embryology. By FRANCIS M. BALFOUR. In two volumes. 8vo. Vol. I. London: Macmillan & Co. 1880. Pp. xii. and 492; and Bibliography, pp. xxi.

The first volume of Mr. Balfour's work on comparative embryology more than fulfills the expectations we had formed in regard to it. Mr. Balfour is one of the younger naturalists, of the Cambridge School, already known by his able researches on the development of Elasmobranchs, and by an excellent text-book on the Embryology of the Chick, published in conjunction with Dr. Michael Foster. The present work shows that Mr. Balfour has, besides his high scientific attainments, the power of clear and concise exposition and judicious selection in the presentation of a difficult subject. The compilation of a general work on embryology is extremely laborious, and it is not too much to give Mr. Balfour the highest credit for his treatise.

The most serious defects in the volume before us are the wood-cuts and the index. The former are very bad as engravings, except those which are borrowed from foreign sources, and they are all badly printed. It is certainly strange that a great house like Macmillan's should publish a valuable work with illustrations it would be almost impossible to render more inartistic. The figures are, as far as their flagrant crudeness allows, sufficiently accurate, and could hardly have been better chosen. The index, an important adjunct to a work of reference, is nearly useless, for it does not index the *matter*, but only the *words*, of the volume: for example, under Chætopoda the reader is referred to forty-one (!) different pages, apparently to every page on which the name occurs, but there is no indication whatsoever of the part of the book in which the chætopoda are treated of, although a chapter of twenty-one pages is devoted exclusively to their embryology; yet ten of those pages are specially referred to because the word chætopoda occurs upon them. In

this worthless fashion the whole index is constructed. Still it might be of some use, were not all the important subjects, except the Latin names of orders and genera, etc., *entirely* omitted from it.

Were these defects removed, there would be little to condemn. There is very much to praise. The work opens with a chapter on the ovum and spermatozoon, followed by a chapter on impregnation and a third on segmentation. Mr. Balfour is fully abreast with the many recent discoveries concerning these phenomena, and presents the many controversies, so far as they secure or deserve notice, with admirable impartiality, while his own attitude is eminently conservative, in that he has a predilection for facts. This must be very annoying to Haeckel, whose widely read works on embryology are conceived in the opposite spirit.

The various classes are taken up in order, beginning with the lowest, and the embryology of each is separately treated. In general, the formation of the germinal layers is first described, and then the larval forms are dealt with. An exception is, however, made in the case of crustacea, the larval forms of which are taken up first. To each chapter is appended a capital bibliography, giving the titles of all the important papers, showing a real familiarity with the literature of the science. The author has, it seems, omitted to give the references to the pages of the volumes where his authorities are to be found; this seriously impairs the convenience of his citations.

There are few indications of original observations, the greater part of the work being necessarily a compilation. Indeed, this was the only course possible, and it would have been a matter of regret had Mr. Balfour delayed publication to make confirmatory researches of his own. We feel, however, in perusing the volume, the great need of further investigations, for in several cases the author was compelled to present abstracts of memoirs on the embryology of single species, instead of reviewing the group or class. There are numerous gaps in the science of comparative embryology which are emphasized by the work before us. To have achieved this is to have rendered science an important service. But Mr. Balfour has done much more, for his book is not alone the *only* manual of comparative embryology, but also so well prepared that it will probably long remain a standard work. We look forward with much pleasure and interest to the second volume, which will deal with the tunicates and vertebrates, and will therefore appeal to the profession more directly. We hope and expect it to prove as accurate and thorough as the volume we have now noticed.

C. S. M.

— Dr. Walcher communicated to the Medical Society of Strasbourg a paper from which we make the following extract: "But in the cases where this heroic means (tracheotomy) cannot be applied, you will obtain, in children suffering from the croup, many more recoveries from the tincture of eucalyptus than from chlorate of potash, cubebs, or copaiba and the usual simple tonics. I may sum up by saying that the tincture of eucalyptus is a very powerful tonic and stimulant remedy in diphtheria in general, and especially most useful for the local manifestation in the larynx, the croup so common in infancy." — *Canada Jour. Med. Sc.*

Medical and Surgical Journal.

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DEATH OF PROFESSOR FERDINAND VON HEBRA.

By the death of Professor Ferdinand von Hebra Vienna has lost another of those great physicians and teachers who twenty-five years ago gave her such preëminence as a school of medicine. For several years he had taken but a small share in the performance of the duties of his professorship, and for the year past had been wholly disabled by the painful disease which proved fatal on the 5th of last month. That he had been aware of his approaching death for some time is evident from the following anecdote, which appeared in one of the daily journals of Vienna several weeks ago: Learning from his attending physician at his visit late at night that he was about to return to an entertainment given in honor of the advancement of a young teacher in the school, he called for a pen, and wrote this message to his colleague: "*Moriturus te saluto.*"

Hebra may justly be considered the founder of the modern school of dermatology, although the truth and significance of this judgment can be fully appreciated only by those who began its study a quarter of a century ago; for such a title implies not only the ingenious experimenter, patient observer, and sound reasoner, but the more aggressive qualities of the advocate, prepared not merely to defend the correctness of his own views, but to expose and demolish all tenets in conflict with them. And, indeed, the weapons of as keen and merciless an adversary as he were necessary to dissipate the crude and false theories which formed so large a part of the fundamental principles of dermatology before it felt the creating influence of this great master. Later in life, when his doctrines had become almost universally adopted, and students from all parts of the earth came to receive in unquestioning minds his personal instruction, this persistent spirit of aggressiveness, which still characterized his references to other schools and writers, seemed at times out of place and almost too harsh, but the services of that keen satire and that rough hand can never be forgotten.

He was a student before he was a teacher, and he never ceased to be one in its truest meaning. With that skeptical spirit so essential to original investigation, he took nothing as self-proven in a field so obscure, nothing on the authority of predecessors and contemporaries who had reared so many glittering structures on foundations of superstition and theory. This quality, too, so important in his early work of reform, exercised occasionally in later years an over-

mastering power, so that he failed to recognize at times the truthfulness of the conclusions of others even when founded upon more extended observations than his own, if at variance with them. He had, too, that untired patience of the real observer, satisfied to use the rich material at his command first for the persuasion of himself, and slow to communicate his convictions to others. Thus it was that his writings appeared only late in life, but will survive for the instruction of students yet unborn. He was an admirable teacher. None of his pupils — and fortunately they were many and of many lands — will forget his clear and convincing method of presenting a subject, and the exhaustive use of his clinical material for instruction in diagnosis and therapeutics. If the pupil was apparently his only consideration in such demonstrations, not only science, but humanity, was the final gainer. As a writer the same qualities of directness and simplicity are conspicuous. What he wrote he knew, learned by methods of strictest observation. With the exception of its exhaustive historical prefaces, every chapter in his book will stand as the condensed embodiment of his personal experience, now the only great work in dermatology, forever the legacy of one of the rare masters in medicine.

It is not our present purpose to discuss the special services which Hebra has rendered to medical science. Whether we remember him as the bold fighter against centuries of error, or the reformer of systems of artificial classification and senseless nomenclature, or the tireless observer and keen interpreter of disease, or the teacher unsurpassed in a school of such unparalleled distinction, or the successful champion of rational therapeutics, — for upon all these does his claim to enduring eminence rest, — we would remember him now, in behalf of his many American pupils, with profound veneration and regret.

STATE CHARITIES AND VOLUNTEER VISITING.

THE connection which existed for some time between the State Charities Aid Association and the State Board of Charities of New York has been interrupted. In a recent address issued by the Aid Association to its local visiting committees an explanation is given of the differences which led to this change. Members of the association who were also members of the State Board were, by an act of the legislature, given the legal right of entrance into the public institutions of charity. These visitors made duplicate reports to the association and to the State Board. They were subject, however, by an act of the legislature passed in 1873, to such regulations as the State Board might see fit to make. New rules, of which the association had no notice, were passed by the board, and an attempt was made to restrain the visitors appointed by the association from reporting to it, as they had formerly done. The two bodies were thus practically separated. At a conference held between representatives of both it was agreed that any

organic connection between the two bodies should cease. The association, being thus left without legal right to visit the charitable institutions of the State, sought to regain it, and at the same time to procure an act of incorporation, by an appeal to the legislature. This attempt was defeated through the opposition of the State Board, based on the ground that its own visitors were sufficient, and that visitors from another organization were unnecessary.

In the address above alluded to the association takes issue on this point, emphasizes the necessity for the unofficial services of its visitors, for the legal right to enter and report on institutions of charity, whilst disclaiming any desire for authority to interfere, and sums up its reasons as follows:—

"We maintain that it is not best that our poor-houses should be subject to official inspection alone; because all official methods are, in their nature, liable to become perfunctory, and have a tendency toward deterioration, which can be permanently and effectively checked only by systematic scrutiny from without.

"For instance: Official service is of necessity accompanied by set forms; is bound by official etiquette; runs in official grooves; and 'the machine power needed to carry on any institution tends always to deepen its own ruts.'

"Rules may require that reports be made only to a state government, at distant intervals. Meanwhile abuses are left undisturbed, and the public interest and the public conscience slumber. Any system which takes from the great body of citizens an immediate influence on the questions which so nearly concern them must have, more or less, this evil result."

In regard to the visitation of public charitable institutions by its volunteer visitors in the various counties the address says:—

"The peculiar value of volunteer service is found in its vigorous, spontaneous, and quickening character. It not only supplements the deficiencies of official service in our public charities, but, by its vigilance, prevents that service from suffering degeneracy. Its public rebukes of wrong-doing have an efficiency with public employees which may not be felt in the tardy or formal strictures of official authority.

"It educates an enlightened class in the community from which public officers of charity may eventually be drawn; and it creates a strong public sentiment in favor of upholding good management of our charities, and of any judicious expenditure in their behalf which may be necessary on the part of the State.

"Only by thorough and constant inspection and prompt report can the public be kept interested and informed as to the condition of its institutions. There are no pigeon-holes for the reports of volunteer visitors. Volunteers have no cause for keeping silent; they have no personal interest to serve, no political favors to ask, no one to fear, no one to flatter."

To justify its continued existence the association points with satisfaction to some of its works:—

"The Industrial Home, at Kingston, was established after the passage of 'The Children's Law.' Within three years from eighty to one hundred chil-

dren have been received in it, fifty of whom have been placed in homes in families.

"The Temporary Home for Pauper Children, recently opened in Westchester County (whence the children, under proper supervision, are to be placed in family homes), is a direct outcome of the work of the association.

"In behalf of the sick in pauper hospitals, we mention, as part of the work of the visiting committee for New York County, the 'Training School for Nurses attached to Bellevue Hospital,' the beneficial influence of which is felt throughout the United States. In 1878 this school, with its staff of trained nurses, nursed 2103 pauper patients in Bellevue and in the Emergency Hospitals. It has furnished twenty trained nurses as heads of other schools or matrons of hospitals, and has, since its formation in 1878, received from voluntary contributions \$71,134."

A renewed effort will be made by the association to secure legal recognition. Whilst the objections to such volunteer visiting, unless conducted with much tact and discretion, readily suggest themselves, its advantages are forcibly set forth in the address, and the arguments adduced to support the claims of the association to recognition by the legislature are not destitute of very considerable weight.

SANITATION IN COLLEGES.

WHILE the interest in the appointment of a medical officer to point out the various evils in the sanitary condition of our schools in Boston was reaching its annual boiling-point, to end, as usual, in letting the teachers go on breaking down, and the children grow up debilitated by the foul air which they have to breathe, a couple of score of cases of typhoid fever, with a half dozen deaths, in the dormitories of one of our wealthiest colleges convinced a dozen trustees of the institution, at last, that their stinking drains must be abated. Under the influence of the "scare," however, the authorities of Princeton College said not only, We will not have any foul drains in our buildings, but they even went further, and abolished water-closets altogether, so that the best that one of our leading sanitary engineers was allowed to do was to build a shanty and some troughs at a distance from the college buildings, where the students are expected to resort in all kinds of weather. An industrious janitor is supposed to flush and brush these troughs clean twice a day. We hope he will, but even if he does not, any offensiveness to sight and smell that may arise will be prejudicial to the morals and manners of the young men more than to their health, and we presume that civilization is now not so important in that particular college as convincing people who know nothing about the causes of disease that something radical is to be done. The sewage is to be utilized by surface irrigation a half mile off.

Without any scare, the powers that be at Harvard have decided that there is a risk of ill health in maintaining their drains and trough-closets as at present

existing, even in their new dormitories, and so they have decided to abolish them, and substitute the best hopper closets that are made, with as perfect flushing and ventilation as can be got,—all this to be within the walls of the buildings, so that the student will not be tempted to injure his health by disregarding the calls of nature in cold and stormy weather, or to adopt familiar expedients which are less sightly and decent than exigent. Our colleges are meant to teach many things beside Greek and mathematics. We are glad that the example of Harvard lies in the direction of health, cleanliness, decency, comfort, and common sense.

MEDICAL NOTES.

—Dr. J. B. Russell, health officer of Glasgow, and Dr. T. S. Clouston, the distinguished alienist of Edinburgh, are shortly expected in Boston. Dr. Russell's health reports are among the most careful and valuable with which we are acquainted, and Dr. Clouston needs no introduction to our readers as an authority in his particular department.

—Dr. Eliza M. Mosher has been appointed superintendent of the Reform Prison for Women at Sherborn, in place of Mrs. E. C. Atkinson, resigned. This is regarded as an excellent appointment.

—Mr. Spencer Wells has performed ovariectomy one thousand times, with seven hundred and sixty-eight recoveries and two hundred and thirty deaths.

—Since the introduction of chloroform as an anæsthetic agent, thirty-five years ago, there have been but five hundred deaths from its use.

—M. Verneuil, surgeon to La Pitié Hospital, and Dr. Charcot, chief physician of the Salpêtrière, have been made officers of the Legion of Honor.

—A bill of considerable importance, as its object is to provide for the utilization of London sewage, has received the royal assent. The Dagenham and District Farmers' (Optional) Sewage Utilization Act authorizes the formation of a company and the construction of works for the delivery of London sewage to the occupiers of some nine thousand acres of land on the Essex side of the Thames, between Barking and Wennington. The essence of the project is pointed to in the word "optional" in the title of the bill. The farmer or the market gardeener will draw sewage only when he requires it, and the company will be under no obligation to take the sewage except when they can dispose of it. The act confirms a thirty years' agreement with the Metropolitan Board of Works, by which, in consideration of a half-share in the profits of the concern (beyond five per cent.), the board undertakes to supply the company with any quantity of sewage up to sixty million gallons a day. The works proposed will be capable of supplying twenty pounds' worth of manure, at a charge of about two pounds, to every acre in the district during the six driest months of the year. The company will probably divert the bulk of the sewage from the river during the hottest months of the year. — *Medical Times and Gazette*.

—A lengthy and favorable criticism upon the Transactions of the American Gynecological Society may be found in Nos. 26 and 28 of the *Wiener medizinische Presse*.

CHICAGO.

—This city is at present suffering the visitation of an epidemic of typhoid fever. Usually at this season the county hospital (with two hundred and fifty patients) has two or three cases of this disease in its wards. At present there are about thirty cases in the hospital. The mortality so far has not been great, probably considerably less than ten per cent. The cases so far observed have been singularly free from diarrhoea. The temperature range has been quite irregular, repeated sudden elevations occurring in the second, third, and fourth weeks of the disease, without elevation of pulse-rate or any inflammatory complication to account for the phenomena. There is no cause so far discoverable for the epidemic. There is no change in the water supply, sewage, sewerage, or streets of the city that can explain its occurrence.

—Dr. F. H. Davis, the eldest son of Prof. N. S. Davis, died on the 17th inst., after a most painful illness of nearly three months. He had been in the practice of medicine about ten years, associated with his father, and was widely known and much respected. He had been for some time a member of the medical staff of Mercy Hospital, was for many years one of the editors of *The Medical Examiner*, since merged with *The Journal* into *The Journal and Examiner*, and has most of the time since its organization been secretary of the American Association of Medical Editors. He has made valuable contributions to the literature of the therapeutics of inhalations for diseases of the bronchial tubes and lungs. Several of his articles have appeared in the transactions of the American Medical Association and of the State Medical Society, while many have appeared in medical journals.

—The topic in professional circles here at present is the operation at the County Hospital, by Dr. E. W. Lee, of transplantation of skin from the sheep to the human body. What now adds to the interest of the operation, and makes those who have watched the progress of the study and trial with anxiety hold their breath, is the fact that the experiment bids fair to be a success. The coaptation of the three large flaps from the side of the lamb to the ulcer on the patient was made on the 24th of August. Six days have elapsed at this writing, and union of all the flaps seems to be perfect. Of course when they come to be separated from the lamb they may suffer and perhaps slough, but it is now well settled that the skin of the sheep will adhere to a granulating surface on the human body.

The subject of this experiment (that is, the human subject) is a girl about ten years of age, who sustained an extensive burn on the back a year and a half ago. A large granulating ulcer remains, despite all efforts to induce healing. Skin grafting has been

faithfully practiced, but without success. The child has of course been obliged to lie prone most of the time, and has become greatly reduced. A few weeks ago an attempt was made to transplant a flap from the thigh of her older brother, but the flap sloughed. That failing, Dr. Lee began at once to experiment with flaps and dissections from the sides of sheep. His first subject, a lamb, nearly full grown, was lost, soon after the dissection of the flap, from the shock of the operation. He next operated on two other lambs, dissecting up two moderate-sized flaps from each, placing oiled silk beneath them to prevent adhesion, and dressing them antiseptically. These animals were then turned out to grass in the hospital yard, and were also fed on milk, with occasionally a small admixture of whisky. They took to this diet with avidity. After several days—nearly two weeks—had elapsed, and the animals were vigorous, the operation of application of the flaps of one of them was made. A new flap was dissected from between the two already made, and applied in the same manner as the others. The new flap has made a firmer adhesion than the old ones. The lamb is fastened in the standing posture, in a wood cage, its body being securely fixed and sustained by plaster-of-Paris bandaging of its limbs and quarters. Perfect coaptation and perfect immobilization are secured. The patient has improved in appearance and general condition since the operation, and the lamb shows no signs of failing health.

Miscellany.

THE BROWN CASE.

MR. EDITOR.—In the *JOURNAL* for August 12th, page 157, Dr. Fisher gives his account of this prominent trial. It will be remembered that Brown shot to death in our streets John A. Jenks, Christmas morning, 1878; some six weeks prior to this, Brown's wife had voluntarily confessed to him a criminal intimacy with Jenks. Dr. Fisher says, "Towards morning of the next day he attempted suicide by cutting his throat, and lost much blood; shortly after he had a convulsion or fainting fit." While it is true that Dr. Fisher may have been led to think Brown contemplated self-destruction, I cannot conceive how he got the idea that it was "by cutting his throat." Nothing of the kind was testified to. Brown had a small pocket-knife, and made two or three insignificant stabs in the lower part of his abdomen, and cut his left wrist, so that he lost venous blood, perhaps a quart; it was not measured. He was faint, but had neither a fit nor a convulsion. This faintness or rather depression continued until late in the afternoon, when I recommended champagne, which promptly rallied him; other stimulants did not do so well. There is room for discussion if he attempted suicide at all. The testimony as to his putting a pistol to his head was not very credible, and all who claimed to have suspected a liability to suicide signally failed to communicate such thought to others or take precautions to prevent the deed. The continued depression was not wholly from loss of blood, it seems to me, but in part from the fearful calamity he had

brought upon himself and others. Soon after the confession of his wife he went to the police station, and among other things he uttered was an expression in effect that Jenks ought to suffer death for his offense. He told the chief of police that he bought the pistol when he resided in the outskirts of the town, fearing to be robbed, of which, however, there was little danger. This motive for carrying a deadly weapon had long ceased, for he lived at the time of the homicide near the centre of twenty-five thousand people, and his wife testified that he was at home evenings. From Dr. Fisher's account one may infer that Brown had the pistol in his pocket for the purpose of self-destruction on the morning of the shooting: "At the point of suicide [he] started for town [he resided in the centre], with a pistol in his pocket, to get some medicine for his head." When Brown's lawyer called upon me before the trial to ascertain if I would testify in behalf of his client, he said, "Brown went down street to buy a toy for his little son, and meeting Jenks," etc., etc. The wife testified that "one of the children had broken its trumpet; he said he was going down street, and would get a new one. He also took his medicine bottle, to go to Dr. Tobey's for the purpose of getting it filled. The next time I saw my husband was in the office of the chief of police, after he had been arrested. I asked him why he did not go right down to 'Central' to get his medicine, instead of bothering about the trumpet. He said, 'I don't know.'" So that Brown left his home that morning for two purposes, to buy a toy and medicine, and the trumpet being uppermost in his mind, he went in an opposite direction first, to get the toy. From Brown's residence "Central" is north, and up; to the place of the shooting it is south, and down street; therefore it is the truth, as the legal gentleman informed me, "he went down street to buy a toy for his little son." Suicide could not have been contemplated at that moment.

Dr. John W. Sawyer, of the Butler Insane Hospital, testified that his "opinion of Brown's sanity was founded upon what I learned of his friends. My mind was made up before I came here."

Dr. Sawyer proposed of his own motion to visit me, and also confer with the police before the trial. This met my cordial approval, but the visit was never made, nor the conference had. If Brown was insane it could not have lasted very long. A fellow-laborer visited him at the police station, and said, "You have got into a queer fix." The reply was, "I guess I have manhood enough to stand the rest." It is proper to say that this was not brought out at the trial; and the expression made to the police six weeks before the fatal day, that Jenks deserved death, does not appear in the printed testimony (before me), although the officer assures me he so testified.

I held the same view at the time of the trial regarding Brown's use of the knife in the cell that I now have, that is, the probabilities are that it was not an attempt at suicide. The mode of questioning upon the stand prevented my bringing this out. To settle this in my mind was one of the points for which I desired to confer with Dr. Sawyer. It is to be regretted, I think, that Dr. Sawyer did not carry out the intention he had at our short interview, and confer with all parties having knowledge of the transaction, rather than confess in open court, upon cross-examination, that "my opinion of Brown's sanity was founded upon what I learned of his friends. My mind was made up

before I came here." How it was that Dr. Fisher got the impression that Brown tried to "cut his throat," I am at a loss to explain. That he misapprehended some other points of the evidence, being unacquainted with the geography of our town, is more explicable, though it was in plain language that Brown went out that Christmas morning to get medicine for his head, and also to buy a trumpet, "a toy for his little son;" but the plaything being in his mind of the most consequence he went for that first. Fifteen or sixteen were called who testified that they saw Brown "hourly," "two or three times a day," "once or twice a week;" saw him on the morning of the homicide two or three times;" saw him at the time he was arrested; all these discovered no signs of excitement or of insanity. The superintendent of the mill where Brown worked testified, "I saw him daily for two months prior to the murder, and noticed nothing unusual. He did his work as usual." Three or four witnesses testified to an excited state at the time of the arrest, and in the cell at the station; and some of them said "he did not seem to know what had happened." The testimony as to hereditary insanity was strong; one might wonder if there ever was a sane Brown of this household. This point was well established, but not strengthened, by the clear attempt (to my mind) to overdo it. The prisoner's mother was a quiet, matronly woman; so she always appeared to me, and it was not necessary to undertake to show otherwise. The father of Brown never showed signs of insanity; the grandmother was insane and harmless; "a sister had been insane, and cut off her child's head;" a number of other relatives are or have been insane. Dr. Fisher says: "If Brown had killed himself, no one would have questioned his insanity."

Dr. Palmer testified that "sane men try to escape the consequences of crime by suicide." But it is not likely that Brown ever contemplated suicide, for if he had, why did he not "cut his throat," or otherwise accomplish it? The testimony quoted above is from the *Providence Journal*.

Dr. Fisher further says: "The attack was cumulative in character."

It does seem that, like Tam O'Shanter, he "nursed his wrath to keep it warm."

Dr. Sawyer testified that he did not regard Brown as fully responsible at the time of the homicide; in this view Dr. Fisher seems to agree. Drs. Palmer, Perry, and myself saw no insanity.

JAMES O. WHITNEY, M. D.

PAWTUCKET, R. I.

A CASE OF INTERMITTENT FEVER ORIGINATING IN WESTERN MASSACHUSETTS.

MR. EDITOR, — Attention having been directed of late to the increase of malaria in the Connecticut River valley, the following case of intermittent fever, originating in the western part of the State, and which yielded readily to treatment, may have some interest for your readers.

The patient, a young lady, returned home in the latter part of last July, feeling somewhat debilitated, after a visit to Longmeadow (near Springfield).

One week after her return, at six o'clock in the evening, she was attacked with severe chills, followed by fever, which did not subside until the following morning. On the two next days the chills returned at six o'clock, and the fever continued through the night. When

first visited, at 9.30 P. M. of the third day, the temperature was 104.2° F. The spleen was not found enlarged at that time nor subsequently.

On the fourth day treatment was commenced, five grains of quinine being given in grain doses, beginning at eleven A. M. The chills were postponed to 8.15 P. M. (twenty-six and one fourth hours' interval). At nine P. M. the temperature was 104.6° F., and the fever continued through the night.

On the fifth day twelve grains of quinine were given in one to two grain doses, beginning at eleven A. M., and in consequence the fever was postponed until 2.30 A. M. of the following day (an interval of thirty and one fourth hours). The fever was less intense, and not preceded by a chill.

Twelve grains of quinine (later diminished to six) distributed through the twenty-four hours averted further severe attacks. Moderate fever accompanied by slight nausea was noticed at irregular intervals up to the tenth day, when all malarial symptoms disappeared, and the patient rapidly recovered strength.

As she has never visited the West and South, the disease was undoubtedly contracted in the Connecticut Valley, where, according to our State Board of Health, intermittent fever has, during the past few years, become fairly established.

Yours truly,

J. B. AYER, M. D.

THE DANGER OF ESMARCH'S ELASTIC BANDAGE.

THE *London Lancet* says: The use of Esmarch's elastic bandage is one of the most serviceable of the modern improvements in operative surgery; by its means not only is loss of blood prevented, but many operations can now be conducted with a deliberation, and therefore a precision and skill, that was formerly unattainable. When Dr. Reid conceived the idea of utilizing this bandage in the treatment of external aneurism, and showed by a very successful case that his idea was eminently practical, the field of usefulness of the elastic bandage was immensely widened. Nearly thirty cases of aneurism in which this treatment has been used have already been recorded, two thirds of which have been successful; doubtless there have been many other unrecorded cases. Hitherto no ill results have been recorded, if we exclude Mr. Bryant's case, in which gangrene of the foot followed, but possibly was not caused by the use of the bandage. Dr. Robert F. Weir, of New York, however, has had the misfortune to lose a patient while undergoing this treatment. The man was a negro, aged thirty-two, with a large popliteal aneurism completely filling the ham. The elastic bandage and tubing were applied in the usual manner, and after two hours and a half the tubing was removed and replaced by a Signoroni's tourniquet, this and the bandage being removed after another hour and fifty minutes. Two days later, as the aneurism was not consolidated, the treatment was repeated, the tubing being left on two hours and fifty minutes, the bandage alone four hours longer, and a Signoroni's tourniquet at the groin a further half hour. The next day the pulse at the wrist was found to be nearly absent, and very weak and irregular in the femorals, although there were no other signs of shock, and in spite of careful stimulating treatment he sank.

and died twenty-seven hours after the discontinuance of the compression. At the autopsy the aneurism and the artery beyond it were found filled with soft, recent coagulum; the heart, especially on the right side, was found, on microscopic examination, to be "distinctly fatty." The risk of overstraining a weak heart has been noted and often commented on by surgeons as a drawback in the use of the elastic bandage, but we believe we are correct in stating that this is the only recorded instance in which this danger has been experienced. Dr. Weir rightly observes that it was a pity the bandage was retained on so long; for although it might not completely arrest the circulation, it yet allowed only a small quantity of blood to circulate in the limb. But this case suggests two other precautions, which no doubt have been often taken, though not expressly noted. One is not to continue the bandage above the aneurism and interfere with the general blood pressure more than is actually necessary; if the bandage be put on up to the aneurism, and then the tubing be applied tightly round the limb immediately above the tumor, the desired condition of the aneurism

and adjacent artery, full of stagnant blood, will be obtained; and the application of the bandage up the thigh for a popliteal aneurism is of no advantage, and only occasions additional risk from the greater stress it throws upon the heart. Then, again, the surgeon should carefully watch the pulse while carrying out this treatment, and at the first sign of heart distress or failure relax his pressure. The bandage is so constantly employed that it is only too easy to forget that in some cases it may be a source of danger. Some may be inclined to think that such a risk lessens the value of the bandage, but we think that it is derogatory to the intelligence of the profession to think so. The most perfect instrument requires intelligent using, and excellence in a remedy for therapeutic application can never compensate for a lack of knowledge as to its applicability. The history of surgery shows only too plainly that what ever has been and still is the great need is not additions to our mechanical power or skill so much as the knowledge to enable us to use wisely the means already at our disposal. The best surgeons can do most with simplest means.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 28, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	600	291	33.00	22.17	11.00	5.17	1.17
Philadelphia.....	901,380	335	133	19.70	10.15	1.79	1.49	5.37
Brooklyn.....	564,400	287	158	37.63	24.04	7.67	8.36	1.89
Chicago.....	—	221	139	38.91	22.17	4.52	7.69	4.07
St. Louis.....	—	132	69	25.00	9.09	.76	.76	4.55
Baltimore.....	393,796	143	72	31.47	13.29	—	4.20	2.10
Boston.....	363,938	178	82	39.33	30.34	2.25	5.62	1.69
Cincinnati.....	280,000	109	49	38.53	20.18	4.59	.92	11.01
New Orleans.....	210,000	102	37	25.49	13.73	2.94	1.96	—
District of Columbia.....	170,000	66	34	19.70	13.64	10.61	3.03	1.52
Buffalo.....	—	53	28	35.85	20.75	3.77	7.55	3.77
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	34	—	64.71	14.71	11.76	20.59	14.71
Milwaukee.....	127,000	63	43	31.75	25.40	1.59	3.17	1.59
Providence.....	104,862	29	12	24.14	17.24	3.45	—	—
New Haven.....	60,000	24	6	16.67	4.17	20.83	4.17	—
Charleston.....	57,000	45	17	17.78	6.67	—	—	4.44
Nashville.....	43,543	13	8	46.15	15.38	—	—	7.69
Well.....	59,340	24	17	50.00	50.00	4.17	—	—
orcester.....	58,040	19	11	21.05	15.79	—	—	—
Cambridge.....	52,860	15	7	40.00	33.33	6.67	6.67	—
Ill River.....	48,626	26	16	15.38	—	—	3.85	7.69
Worcester.....	39,068	19	10	42.11	36.84	—	5.26	—
Ann.....	38,376	19	12	36.84	31.58	5.26	5.26	—
Springfield.....	33,536	23	14	8.70	4.35	—	4.35	—
Leam.....	27,347	15	9	40.00	20.00	6.67	13.33	6.67
New Bedford.....	27,268	11	8	45.45	45.45	—	—	—
Merrillville.....	24,964	9	2	44.44	33.33	—	—	11.11
Lyons.....	21,961	13	8	38.46	30.77	—	—	—
Elmhurst.....	21,780	16	6	37.50	18.75	6.25	6.25	6.25
Winton.....	21,145	6	2	—	—	16.67	—	—
Worcester.....	19,288	8	7	50.00	50.00	12.50	—	—
Warren.....	18,478	6	3	66.67	33.33	—	16.67	16.67
Winton.....	16,994	—	—	—	—	—	—	—
Wburyport.....	13,470	6	0	33.33	—	—	16.67	—
Chburg.....	12,270	—	—	—	—	—	—	—
Seventeen Massachusetts towns.....	123,141	52	27	36.54	30.77	3.85	3.85	—

Deaths reported, 2721; 1337 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 871, diarrhoeal diseases 532, consumption 329, lung diseases 146, diphtheria and croup 125, typhoid fever 80, malarial fevers 50, scarlet fever 35, whooping-cough 24, cerebro-spinal

meningitis 11, measles six, small-pox five, erysipelas three. From malarial fevers, New York 14, St. Louis 11, New Orleans nine, Baltimore five, Charleston three, New Haven two, Chicago, Cincinnati, District of Columbia, Buffalo, Nashville, and Bridge-water one. From scarlet fever, Baltimore seven, Chicago six, Brooklyn five, Pittsburgh four, New York and Philadelphia

three, Providence two, Boston, Cincinnati, Buffalo, Nashville, and Newburyport one. From *whooping-cough*, New York and Baltimore five, Brooklyn and Cincinnati four, Chicago two, St. Louis, Boston, Holyoke, and Chelsea one. From *cerebro-spinal meningitis*, New York three, St. Louis, Boston, Cincinnati, New Orleans, Pittsburgh, Milwaukee, Nashville, and Worcester one. From *measles*, New York and Brooklyn two, Chicago and Fall River one. From *small-pox*, Philadelphia five. From *erysipelas*, Philadelphia, Chicago, and St. Louis one.

Thirty-one cases of diphtheria, nine of scarlet fever, two of measles, two of typhoid fever, and one of whooping-cough were reported in Brooklyn; diphtheria 28, scarlet fever one, in Boston; diphtheria 12, scarlet fever 10, in Milwaukee; scarlet fever five, diphtheria two, typhoid fever one, in Providence; scarlet fever 13, diphtheria one, in New Bedford.

In 33 cities and towns of Massachusetts, with a population of 1,012,626 (population of the State 1,783,812), the total death-rate for the week was 24.00 against 27.21 and 25.46 for the previous two weeks.

Total number of deaths, deaths under five, deaths from diarrhoeal diseases, all decreased in about the same proportion.

For the week ending August 7th, in 149 German cities and towns, with an estimated population of 7,767,599, the death-rate

was 29.8. Deaths reported, 5373; 2814 under five: pulmonary consumption 421, acute diseases of the respiratory organs 253, diphtheria and croup 93, scarlet fever 75, typhoid fever 73, whooping-cough 51, puerperal fever 17. The death-rates ranged from 12.9 in Duisburg to 48.1 in Chemnitz; Königsberg 27.3; Breslau 38.4; Munich 34.2; Dresden 29.5; Berlin 34.2; Leipzig 18.6; Hamburg 28; Hanover 33; Bremen 24.3; Cologne 32.3; Frankfurt 20.4; Strasburg 37.7.

For the week ending August 14th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.8. Deaths reported, 3567: diarrhoea 807, acute diseases of the respiratory organs 152, scarlet fever 112, whooping-cough 62, measles 54, fever 44, small-pox (all in London) six. The death-rates ranged from 16 in Wolverhampton to 38 in Salford; London 24; Bristol 17; Birmingham 26; Manchester 26; Liverpool 28. In Edinburgh 20; Glasgow 20; Dublin 35.

In the 20 chief towns in Switzerland for the same week, population 445,790, there were 57 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 21, diphtheria and croup four, scarlet fever four, measles three, typhoid fever two, whooping-cough two.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
Aug. 22	29.950	75	91	65	70	31	63	55	W	SW	SW	8	13	8	C	C	F	—	Too small to measure.
" 23	30.112	79	96	63	74	24	73	57	SW	SW	SW	6	8	11	C	C	F	—	
" 24	30.034	77	91	68	85	56	81	74	SW	SW	SW	4	11	14	C	C	F	—	
" 25	30.069	67	77	62	90	89	89	89	W	E	N	5	5	3	O	O	O	—	
" 26	30.286	57	68	52	69	71	75	72	NE	E	SE	7	12	6	C	C	C	—	
" 27	30.227	60	69	47	80	63	77	73	C	E	SW	0	12	6	C	C	C	—	
" 28	30.043	73	87	58	88	57	81	75	SW	SW	SW	8	12	14	O	C	C	—	
Week.	30.103	70	96	47				71	Southwest.									1 00	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 28, 1880, TO SEPTEMBER 3, 1880.

CAMPBELL, JNO., lieutenant-colonel and surgeon. Medical director, Department of the South. Granted leave of absence for twenty days. S. O. 103, Department of the South, September 1, 1880.

HUNTINGTON, D. L., major and surgeon. To accompany the President and General of the Army to California, Oregon, Washington Territory, Arizona, New Mexico, Colorado, and Kansas, and then return to his station in this city. S. O. 182, A. G. O., August 28, 1880.

KING, WM. H., captain and assistant surgeon. His sick leave granted him July 21, 1880, from head-quarters, Department of Dakota, extended three months on surgeon's certificate of disability. S. O. 183, A. G. O., August 30, 1880.

CRONKHITE, H. M., captain and assistant surgeon. Relieved from duty in the Department of the East, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 158, A. G. O., September 1, 1880.

HARVEY, P. F., captain and assistant surgeon. At expiration of his present leave of absence to report in person to the commanding general, Department of Dakota, for assignment to duty. S. O. 182, C. S., A. G. O.

WORTHINGTON, J. C., captain and assistant surgeon. Relieved from duty in Department of Arizona, to proceed to Baltimore, Md., and, on arrival, report by letter to the surgeon-general. S. O. 182, C. S., A. G. O.

REED, WALTER, captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 182, C. S., A. G. O.

BURTON, H. G., first lieutenant and assistant surgeon. Relieved from duty in Department of Arizona, to proceed to Boston, Mass., and report arrival there by letter to the surgeon-general. S. O. 182, C. S., A. G. O.

RHODE ISLAND MEDICAL SOCIETY. — A quarterly meeting of the society will be held in Lyceum Hall, 62 Westminster Street, Providence, R. I., Wednesday, September 8, 1880, at ten o'clock A. M. Censors' meeting at same time and place. Order of exercises: (1.) Reading of records. (2.) Censors' report. (3.) Reports of committees. (4.) Reports of delegates. (5.) Admission of Fellows. (6.) Reading of papers by Drs. George W. Porter and William H. Palmer.

VIRGIL O. HARDON, M. D., Secretary.

NEW HAMPSHIRE MEDICAL SOCIETY. — Ninth excursion of the society. Officers: President, G. P. Conn, M. D., of Concord. Vice-President, H. B. Fowler, M. D., of Bristol. Secretary, M. W. Russell, M. D., of Concord. Treasurer, L. B. How, M. D., of Manchester. Anniversary Chairman, C. A. Tufts, M. D., of Dover. Committee of Arrangements, S. W. Davis, M. D., of Plymouth, G. D. Towne, M. D., of Manchester, George Cook, M. D., of Concord, S. C. Whittier, M. D., of Portsmouth, E. S. Berry, M. D., of Dover. The ninth semi-annual meeting will be held on Tuesday and Wednesday, September 14th and 15th, in the parlors of the Pemigewasset House, Plymouth, N. H. The Essex North District Medical Society, of Massachusetts, the White Mountains Medical Society, the Connecticut River Valley Medical Society, the New Hampshire Pharmaceutical Society, and the New Hampshire Dental Association have been invited to join in the excursion. Programme: A special dinner will be served to the members of the society and invited guests at two o'clock Tuesday P. M. Post-prandial exercises, under the management of the anniversary chairman, will occupy an hour or more of the afternoon. Excursions have been arranged to Mt. Prospect and the state fish-hatching house. Supper at the usual hour. In the evening a reception will be held, with music. Wednesday morning, such members as desire can take the Lady of the Lake, at the Weirs, and make the delightful trip across the lake, returning in season for the afternoon trains north and south.

REPORT OF THE EXECUTIVE BOARD OF
THE MASSACHUSETTS MEDICO-LEGAL SOCIETY
ON THE WORK OF THE MEDICAL
EXAMINERS FOR THE YEAR 1879.

In behalf of the executive board, the following report is presented:—

The statistical details which the Massachusetts Medico-Legal Society are enabled to present, through the medium of this report and those of the previous years of its existence, constitute a summary of work which has not been compiled for public presentation before the organization of this society. A certain portion of these statistics are necessarily devoid of medico-legal characteristics. This must always be true, in consequence of the varied nature of the cases which are presented for the official cognizance of the medical examiner. The ability to discriminate correctly between natural and violent deaths constitutes the chief advantage which a professional training has given to the medical examiner over the coroner of olden time.

As an organized body we are (through the voluntary reports of the members of this society) in possession of the essential facts pertaining to the majority of cases of deaths, of an accidental, suicidal, or violent nature, occurring in Massachusetts since July 1, 1877.

It is worthy of note that the State has never attempted the collection of data in regard to coroner's inquests in former years; the only records of inquests being such as are scattered throughout the various county court houses, in the shape of expense accounts, and records of testimony.

The executive board therefore request your cordial co-operation in continuing the reports already begun, and contributing them in such form as shall be acceptable to the society.

During the past year the executive board have begun the work of filing and indexing all the reports in their possession. The work for the last six months of 1877 and for the year 1878 is completed, and that for 1879 nearly completed, the whole forming six volumes, contained in bound letter-books of appropriate size. Each medical examiner's annual report appears by itself, and also the special report of views and autopsies. These reports, for the sake of future reference, are all carefully indexed, each reference containing the name of the "person found dead," when the name is known, the name of the town or city where the body was found, the medico-legal diagnosis, and the page of the volume where the report is inserted.

These volumes have been deposited in the Medical Library, by the permission of the Medical Library Association, and in accordance with the instructions of this society.¹

Of the fifty-six medical examiners who have been members of this society during the past year, forty-seven have reported their work for 1879, either partially or in full, to the corresponding secretary. Of this number, thirty-two have sent complete returns, including both annual returns and reports of special cases; three have sent special reports only, and twelve have rendered annual reports only. Two medical examiners have given no return of autopsies, although these were indicated in their annual reports.

From the returns of forty-seven medical examiners we compile the following results:—

Total number of views made during the year.....	699
Number of views followed by autopsy.....	182
Inquests held, on recommendation of the medical examiner	151
Inquests held without his recommendation, and not in railroad cases	1
Inquests at which medical examiners testified.....	75
Cases reported by medical examiners as probably resulting from violence, in which no inquest was held.....	22
Deaths from natural causes.....	302
" " railroad accidents.....	90
" " other accidents.....	232
" " suicide.....	122
" " violence.....	54
Prosecutions resulting.....	13
Convictions resulting in cases now finished.....	4

The relative proportion of views to autopsies and inquests is as follows:—

In 1877 (six months).	1878.	1879.
Views, 443	828	699
Autopsies, 116 = 26 + %	196 = 23 + %	182 = 26 + %
Inquests, 99 = 22 + %	172 = 20 + %	151 = 20 + %

The variation in the causes of death is more noticeable:—

	1877.	1878.	1879.
Natural causes,	23 %	39 + %	38 %
Railroad accidents,	17 %	14	11
Other accidents,	29 %	25 +	29
Suicide,	16 %	11	15
Violence (by another)	11 %	8	7

The deaths included in this report are, for convenience of classification, distributed under the following groups: (1.) Deaths by accident. (2.) Deaths by violence (the act of another). (3.) Deaths by suicide. (4.) Deaths by natural causes.

These groups are also susceptible of divisions and sub-divisions as follows:—

Deaths by accident:—	
Of these there were by railroad injuries.....	83 ²
" " drowning.....	98
(Of this number five were in consequence of shipwreck.)	
There were by poison fourteen:—	
Of which number there were from laudanum.....	3
" " " " lobelia.....	1
" " " " chloral hydrate.....	1
" " " " chlorate of potassa.....	1
Killed by a fall.....	41
Killed by falling bodies.....	13
Rnn over by a team.....	7
Killed by injuries from machinery.....	3
Killed by shooting.....	4
Killed by kick of a horse.....	1
Killed by hanging.....	1
Killed by running against another person.....	1
Killed by elevator accident.....	1
Killed by asphyxia from fire or smoke in a burning building.....	9
Killed by scalding.....	5
Killed by burning.....	4
Killed by boiler explosion.....	3
Killed by freezing and exposure to cold.....	6
Killed by an injury not specified.....	1
There were also, by overlaying, or suffocation under bed-clothes (all young infants).....	12
Killed by instrumental delivery (infants).....	2

Fifteen accidental deaths occurred in the afternoon of July 16, 1879, during a severe gale, in which fourteen persons were drowned in Boston Harbor, and one person was killed on shore by a boiler explosion.

² The apparent discrepancy between this portion of the report and the former or general portion is accounted for as follows: In the former portion the entire number of railroad accidents is included; in the latter, only those which are specified in the reports of individual cases.

¹ Vide Transactions of the Massachusetts Medico-Legal Society. No. 2. Appendix C.

Others were also drowned at the same time, but no special reports were received other than those enumerated:—

Deaths by violence (the act of another) were as follows:—

By blows on the head.....	5
By criminal abortion.....	3
By shooting.....	2
By stabbing.....	1
By fracture of patella (followed by delirium tremens).....	1
Mode of injury not stated.....	2
By infanticide, including various forms of violence.....	7

Suicides occurred as follows:—

By hanging.....	26
By shooting.....	22
By drowning.....	20
By cutting throat.....	12
By leaping from a height.....	2
By strangulation with a handkerchief.....	1
By poison.....	15
Opium in some form.....	5
Paris green.....	6
Cantharides.....	1
Chloral hydrate.....	1
Prussic acid.....	1
Corrosive sublimate.....	1
Mode unknown.....	1

Sixteen suicides were known to have been insane. The ratio of suicides to population in 1879 was about one to thirteen thousand. There were three deaths from suicide in one small town of seven hundred inhabitants.

Deaths from natural causes were distributed thus:—

Heart disease.....	52
Apoplexy.....	18
Epilepsy.....	6
Phthisis pulmonalis and hæmoptysis.....	14
Pneumonia.....	8
Pulmonary oedema.....	3
Acute bronchitis.....	2
Convulsions.....	3
Peritonitis.....	3
Alcoholism and delirium tremens.....	15
Thoracic aneurism.....	3
Starvation.....	4
Diarrhoea.....	3
Old age.....	3
Exhaustion.....	2

Cholera morbus, rupture of aorta, typhoid fever, whooping-cough, croup, disease of liver, septicæmia, abortion, sunstroke, and death under ether, one each.

Sixty-eight deaths were reported as the direct or indirect result of intoxicating drinks.

Infantile group of deaths from natural causes:—

From premature birth and still-birth and various causes among children under one week old.....	31
Cholera infantum.....	1
Marasmus.....	1
Invagination of intestine.....	1
Causes unknown.....	4

Five cases of infants were investigated at the request of the Massachusetts Society for the Prevention of Cruelty to Children.

Two points of special interest are noticeable in the report of the past year:—

The increase in the number of suicides by Paris green. This poison has become more widely known of late years in consequence of its vermin-destroying properties. Its poisonous properties are familiar to all persons who own a potato patch, whether large or small. No deaths from its use were reported in 1877 or 1878.²

¹ Reported in full in Boston Medical and Surgical Journal, January 26, 1880, page 107.

² The notes of an autopsy in a case of suicide by Paris green are appended to this report:—

It is also a singular fact that the note of the last corresponding secretary in relation to the notable absence of deaths from overlaying among infants, in 1878, should have been followed by a marked increase in 1879, one only being reported in the former year, and twelve in the latter.

ON THE POST-PARTURIENT PATHOLOGY RESULTING FROM IMPERFECT UTERINE CONTRACTION AFTER CHILDBIRTH, AND ON INVOLUTION COMPLETE AND INCOMPLETE.

BY T. H. BUCKLER, M. D., BALTIMORE.

In a late paper¹ the evolution of gestation was referred to for the purpose of briefly explaining the ways in which the cervix and cervical canal are transformed, one into the walls, or rather *floor* or *basin*, and the other into the cavity, of the uterus.

The mode of involution is nothing more than the method of evolution exactly reversed, only the process in the former usually takes place more rapidly, while to complete the latter, the full period of gestation is required. During evolution the muscular fibres grow and develop, but pending involution they undergo atrophy, and waste. If all women, like the American Indian squaw, who has a child as easily as a Guinea pig drops its young, had a fair share of muscular energy and nervous strength, the service of the obstetrician might be dispensed with; but as civilization advances, the standard of nervous and muscular power seems to grow less and less, and hence exercise of the perfect mechanism by which children are brought into the world has been aptly called *labor*. In a parturient woman having a sufficient reserve of muscular devel-

Record of autopsies. Margaret B., aged twenty-two, nineteen hours after death, and sixty-seven hours after ingestion of the poison.

Nothing remarkable on external examination. Heart normal in size and in regard to valves; pale and friable.

Both lungs oedematous posteriorly and inferiorly.

Abdominal cavity contained one hundred and thirteen cubic centimeters of red serum. Pelvic peritonæum injected. Intestines moderately distended with gas. Slight injection of mesentery and intestinal mucous membrane.

Esophagus showed dark, brownish-red patches along lower part of its mucous membrane. No erosions.

Stomach normal externally. Its liquid contents measured one hundred and seventy cubic centimeters, of consistency of pea soup, of a dark, grayish-brown color and grumous, viscid appearance. The mucous membrane of the stomach was not eroded, or distinctly reddened. At the posterior inferior portion (fundus) were many submucous punctate ecchymoses.

Both kidneys were moderately increased in size; cortex infiltrated; streaked with fine, whitish-yellow lines; injected (fatty degeneration).

Spleen normal.

Liver pale; of normal size; edges rolled outward on section (fatty).

Contents of intestines of an olive-green color and creamy consistency. (Patient had taken hydrated sesquioxide of iron freely.) Pelvic organs presented nothing remarkable.

Brain not examined.

NOTE.—Remarkable absence of lesions after swallowing ten cents' worth of Paris green.

¹ In the article referred to, for the sake of clearness, in order that the treatment by dilatation might be better understood, and for the purpose of showing the identity in substance, and at the same time etching sharply the distinctions, both in form, position, and function, between the constrictor oris and carviciis uteri, a third name was not given, as will herein be done, to this muscle, and to avoid confusion nothing was said about the cuculoteris and constrictor oris interni being one and the same; but for the sake of anatomical accuracy, and for the purpose of showing that there is something to a name, it is hoped here to make these muscles appear, not like the dogs that receive bad ones, but so to nominate them that each department of this whole subject may thereby be made clearer, and become, for the future of rational surgery, better understood.

opment and nervous energy, birth is effected by contractions of the longitudinal and oblique fibres, assisted by the abdominal muscles, which, contracting, the one involuntarily, and the other voluntarily, drag and press the constrictor oris open, and force the child along and through the narrow pass, the contractions of the involuntary fibres being continued until the placenta and any retained blood-clots have also been extruded. Parturition having been thus accomplished, the contracted and unyielding uterus, about the size of a large citron, may be felt above the crest of the pubis.

This result is effected, not by folding or crumpling of the walls, but by contraction of the innumerable fibres and bands of fibres of which they are composed, in the way the worm shortens its length, or like the contractions of most muscles under exclusive control of the ganglionic system of nerves.

Nothing has been distorted or rendered uneven by the rapid contraction except the endermion, which will be found slightly corrugated or wrinkled. Just as the fingers, held together, are carried through and underneath threads, in the play of cat's-cradle, so involution commences, and the basin or lower third of the uterus, which has now assumed the shape of a shallow funnel, is, by continued contraction of the longitudinal and oblique fibres, forced through the ring formed by the constrictor oris, the former to be retransformed into a cervix with a canal through it, and the latter into the constrictor cervicis muscle. During the eight or ten days after parturition, and pending the duration of the lochia, attended by "after pains," the perfect mechanism, with the nerves and vessels through which it derived nutrition, denutrition, and action, is being packed away for future use in that box of bone, or small pelvis, where, like a jewel in raw cotton, the womb is at last securely moored, in soft, moist cellular tissue, and thus protected from injurious jostling against the other organs therein contained. This final process is accomplished by the folding up of the lower third or basin of the uterus, which, followed by the dome and cuculoteres muscle of this organ, passes down, carrying with it the lower two thirds of the constrictor oris, thus transforming the latter into a muscular sheath, into which the newly formed cervix passes, like a closed umbrella unto its case. And thus the fibres that in the gravid uterus constituted the constrictor oris and cuculoteres¹ are transformed and transposed into a *constrictor cervicis et oris interni*. These circular muscles serve also not only to drag together the longitudinal and oblique fibres at the base of the dome, where it joins the brim of the basin, but at the same time to remodel the latter into the form of the cervix with its fuciform canal. All these transformations and transpositions having been accomplished, the uterus is brought back to the state it existed in antecedent to conception. This is just what should happen, in every case. But where, through lack of nervous or muscular power, or from obstetrical ignorance or neglect, this process is arrested, the muscular contraction is more or less incom-

¹ When, in the preceding paper, the name *cuculoteres* or *cestus circularis* was given to the powerful band of fibres passing around the uterus at a little below its perpendicular centre, the manuscript went on to say that this formidable muscle caused hour-glass contraction. I recall a case where it was at first impossible to pass the hand through an hour-glass contraction into the dome of the uterus, for the purpose of reaching a placenta attached thereto, and it was only after the woman had fainted from hæmorrhage that the hand was introduced and the placenta withdrawn, after which the longitudinal and oblique fibres began at once to contract, and involution was speedily accomplished.

plete, or, the accoucheur having delivered the placenta, seen, perhaps, that the womb is contracted, and feeling that he has, for woman's sake, performed the whole duty of man, hurries off to ovariectomize, or deliver some other female. If he must neglect the plain duty of waiting to see that all is safe, he should at least seal the primary perfect contraction by giving ten grains of fresh ergot, eight drops of Magendie's solution of morphia, and one drachm of Hoffman's anodyne, and ascertain, before leaving, rather than trust his patient to chance, that these agents have exerted their proper therapeutic effects. Failing to do this, the muscular fibres may very likely relax shortly after he goes, and the funnel-shaped basin, which had, during evolution, been formed out of the cervix, relapses, partially or wholly, from within the ring of the constrictor oris muscle, which latter, followed by the circular fibres of the cuculoteres, would, but for the withdrawal of this spindle, have been retransformed and spread out on a remodeled and descended neck into the *constrictor cervicis*, while the cuculoteres or *cestus circularis* would have been brought down from the line where, in the gravid uterus, its dome and basin join, to be transformed into the constrictor oris interni muscle of the unimpregnated organ. This purely mechanical displacement of the uterine structures might be justly called "subinvolution," or, more properly, arrested or prevented involution; but when the signification of this term is made obscurely to include the deplorable morbid consequences resulting from this dislocated mechanism, it becomes a misnomer, altogether misleading, and without sense or meaning of any kind. If, under these circumstances, an examination per vaginam be made, the now improperly named os externum, composed of nothing but the constrictor oris muscle, will be found relaxed and open, while the internal os (in this connection, also, by many improperly named) is not only patenscent, but often gaping. And why is this? It is an open space, because to fill it the basin or lower third of the uterus has not been folded up, and by contraction of the longitudinal and oblique fibres forced downwards and forwards, into and through the ring formed by the constrictor oris muscle, to be retransformed into the cervix proper, or the form in which it existed before evolution from conception began.

From this, it must be seen that, above the vacant space referred to, and perhaps beyond the field of vision, is the os tincæ or os externum proper, and that the os internum, supposed by some to be beyond it, cannot exist, until the basin or floor of the womb comes down, dragging after it the also coalescing base of the dome, folds up, and becomes remodeled into a cervix, between which and the now contracted base of the dome the internal os is formed, by pressure from without of the cuculoteres of the gravid uterus, now transposed and transformed into the *constrictor oris interni* muscle.

After death from eclampsia, during parturition, the basin or floor of the uterus, which had been formed by evolution and expansion of the neck was clearly distinguishable from the dome of the uterine cavity, its surface being smoother and lighter colored, and its structure more compact and resistant, as it should be, in view of the greater weight it has to carry. For the sake of convenience, clearness, and conciseness, it may be well to divide involution into three stages, namely, *arrested* or *disjunctive*, *conjunctive*, and *proximo-ter-*

minal: Disjunctive, where the lower portion or basin of the womb, going to be re-formed into the cervix, is not engaged in and has not begun to pass through the ring of the constrictor oris, and where, on the contrary, this muscle is contracted in front of it, thereby obstructing its descent. Conjunctive, where the lower third of the uterus, to be transformed into the cervix, has become engaged within the ring of the constrictor oris muscle, which latter is going over at this point, from the completion of one function, to take, in the shape of the constrictor cervicis, quite a different position; and pending this state of change it might be well, as neither of the other names are appropriate, to call it the *musculus transgressus*, or *retrogradus*. And the proximo-terminal, a not unusual arrest in involution, is where the newly molded neck has descended almost to its destined place, and where usually only one or two strong pulls of the longitudinal and oblique fibres on the *constrictor cervicis et oris interni* are required, to force down and home the now folded or rolled up basin of the uterus into its muscular sheath or place of rest, until again disturbed by new germs of conception. During these stages of imperfect involution, and proportionate to its degree of incompleteness, the venous and lymphatic circulations are obstructed and the nerves compressed by the distorted and displaced condition of all the structures, to say nothing of the transitive pressure from nervous contraction of the muscular fibres, in a state of continual unrest. While, in this way, both drainage and denutrition by the veins and lymphatics are more or less retarded, the propulsive power of the arteries and the *vis a tergo* of the blood contained in them are continually forcing these barriers to the venous currents, giving all the uterine structure the materials for morbid growth, and producing, besides, passive congestion or hyperæmia in the truncal and capillary plotwork of vessels. Here, the logical or inductive question to be asked is, What are the sequences or inevitable effects of imperfect contraction, incomplete evolution, and, as a consequence, obstruction to the return venous and lymphatic circulations? Virchow says the result is hyperplasia, from *ὑπερ*, *excess*, and *πλασις*, *formation*¹ (synonymous with hypergenesis), and is applicable to an excess of growth of any of the tissues; and since this excess takes place nine times out of ten in the areolar tissue, Dr. Thomas is not wrong in adding his adjective, though he might just as well have said cellular, laminous, conjunctive, reticular, or interstitial, inasmuch as the areolar tissue bears all these names, and many more. This is all very well, so far as these distinguished authorities go, with their nomenclature, but to say that the uterus labors under hyperplasia, simple or areolar, without reference to its cause, antecedents, or sequences, leaves the inquirer as much in the dark as if he had been told, in regard to the liver, that its pathological condition was singly either that of hyperplasia, cirrhosis, or contraction at the capsule of Glisson. The only explanation of these crude statements is that Virchow must have examined, microscopically, a bit or sample taken from a uterus voluminous in size, or suffering from hypertrophy of all its tissues, and that Dr. Thomas took his specimen from a more advanced stage, or where the womb was laboring under true hyperplasia, or that advanced state of morbid growth wherein the interstitial plotwork of cellular or areolar tissue was growing at the expense of the fibrous

¹ Dr. Good.

structure. They might just as well, and with more truth, have said that this condition, due to careless obstetrics, was an enigma or pathological perplexity; for unless Dr. Thomas regards it as a locked mystery, he would hardly, in the course of his remarks, have said that a key was wanted. Microscopists and specialists are prone to ride disjointed hobbies, and often in trying to get at the true knowledge of a subject there is nothing so bewildering and misleading as the name which has been applied, excluding the rest of its different departments, to some one incident. The real sequences of hæmostasis or mechanical obstruction to the venous and lymphatic circulations, caused by incomplete or arrested involution, are these: (1) hyperæmia; (2) hyperæmia and engorgement of the passively dilated capillary blood-vessels; (3) hyperæmia and hyperplasia, or hypertrophy of all the structures; (4) hyperæmia and areolar hyperplasia and growth, or hypertrophy of the cellular or laminous tissue, at the expense of the fibrous structures, and atrophy or waste of the latter; (5) hyperæmia in the truncal and obliteration of the capillary blood-vessels, which latter, at this advanced stage, have been encroached upon, and infolded by growing bands of cellular tissue. The degree to which these changes take place depends on the point at which contraction or involution of the uterus is arrested. The different stages of this malady are marked thus carefully, with the intention, later on, of advising a new operation for its relief. When one sees the mischiefs resulting from meddling, bungling, and negligent obstetrics, may he not be allowed to doubt whether, in the long run, it would not be better to leave parturient women to the unassisted powers of nature alone, who, as a rule, in these cases, does her work so well? If the obstetrician can do no better than allow these formidable but preventable difficulties to take place, he had better hang up his forceps, especially the long ones, and become a breeder of sheep, or a tiller of the ground. It would seem that these troubles are more common since forceps have come into general use. Nothing is heard now of a primipara, forty-four years old, giving birth to a child, after a labor of eight days and a half, during which time unassisted nature did her work so well that the mother and child progressed admirably, the former leaving her bed in ten days. The head was eight days of this time in overcoming the rigidity, and in making its way through the os uteri.

A capital *résumé* of all the opinions on this vexed subject, known under the names of "areolar hyperplasia," "subinvolution," and numerous other synonyms, may be found in Dr. Gaillard Thomas's work on gynecology. While ably examining the views of the best informed authorities, he deplors the insufficiency and obscurity of the present knowledge of uterine pathology. Dr. Thomas has not only clear views of all that is known in the art of gynecology, but also accurate perceptions of the knowledge required to advance its claims to the dignity of a science, properly so called. Only a glimmer of light is thrown on the subject of "subinvolution" by Virchow, who, from what he saw in one stage of the so-called malady, names it a hyperplasia; but to give it this name, for the purpose of concealing his want of knowledge as to the entire course and conditions of the disease, was, to say the least, clever. The pathological conditions enumerated would no doubt be modified to a greater or less extent by the peculiar idiosyncrasies or diatheses of some individ-

uals, but to what degree it would be difficult, without extended observation, to pronounce. It is easy to suppose, however, that a hæmorrhagic or strumous diathesis might modify, very materially, the usual structural alterations. In the former the patient might be more liable to dreadful hæmorrhages, while in the latter the hyperplasia might partake of a strumous character. And if the patient had been so unlucky as to have had puerperal fever, — to which, from imperfect contraction and exposure of the venous sinuses, she would have been peculiarly liable, — metritis, or metroperitonitis, causing the pouring out of lymph and adhesive inflammation within, or local adhesions between the peritoneal surfaces without, the pathological alterations would be materially modified, and the chances of bringing about complete and perfect involution, whereby alone the womb can be brought to a healthy state, would be defeated entirely. Parametric cellulitis, as a concurrent incident, might also render futile the best directed efforts to reduce the dislocated uterine structures, and restore them to their original place and expectant functions. And therefore, to make a correct prognosis, it is essential to get an exact history, and find out, in every case, whether obstructive complications exist. For the disjunctive stage of involution, or that form depending on incomplete primary contraction or subsequent relaxation of the longitudinal and oblique uterine fibres, and for the beginning of the conjunctive or second stage, I have, believing reduction of dislocation to be the sole and only remedy, dilated the constrictor oris et cervicis, and given ergot, but without relieving the displacement, or improving in any respect the condition of the patient. And surely no one knows so well as the gynecologist how utterly his expedients, uterodectomy included, fail to relieve these stages of "subinvolution." The proximo-terminal stage, often depending in part on contraction of the constrictor cervicis et oris interni muscle, is easily relieved by dilating the cervical canal and os internum, thereby releasing the veins of the neck, and by giving ergot to promote the contraction of the longitudinal and oblique fibres, by which the cervix is pushed down and the muscular sheath drawn on it. The disposition in these cases to relapse is proportionate to the incompleteness of involution and the degree to which the imperfect contraction belongs to the second or disjunctive stage; and, corresponding with this extent, dilatation of the cervix and internal os, or rather constrictor cervicis et oris interni, has to be repeated again and again, at intervals of two weeks, before complete involution, in some cases, is effected. This is owing, probably, to the hydraulic power exerted by the vessels in the body of the womb, laboring under hyperæmia, and the force they exert in lifting the dome, and with it the basin or cervix, from its cradle within and underneath the circular fibres.

Whether sponge tents or bougies be introduced, the patient must remain in bed until they are removed. From the foregoing explanations it must be seen that for these displacements and their pathological sequences alterative medication would be wholly misapplied, and that drugs can be of no service whatever; as well might medicines be prescribed with expectation that they would restore a dislocation of bones at any one of the joints. Neither are leeches of any use whatever. In all the forms of hyperæmia and engorgement resulting from obstruction to the venous and lymphatic circulations leeching is of no value, but in true metri-

tis, metroperitonitis, and parametric cellulitis bleeding by leeches is of inestimable advantage. On the contrary, long-continued hot-water douches, by relaxing the circular fibres and releasing the veins and lymphatics, afford signal relief in obstructive congestions and retarded engorgements, but do no good in metritis and parametric inflammations. In the whole fields of medicine and surgery there is not to be found a more perfect obstruction to the procedures and aspirations of the physician, surgeon, and gynecologist than the disjunctive or most incomplete form of involution, putting at naught and defying, as it has done, the best talent, experience, and skill of the medical and surgical world. The ideas and contradictory opinions in regard to this particular branch of pathology read as if they had been observed and begotten 'twixt sleep and wake, and are at best the outcome of a sickly psychology. However injudicious and hurtful division of the cervix may be, the attempt to relieve arrested involution by the operation known under the inclusive name of uterodectomy must be regarded as far more reprehensible. Ignorance of uterine anatomy, physiology, and the true pathological conditions originated not only a misapplied surgery, but operations that are useless, dangerous, and untenable. Considering carefully Sir James Y. Simpson's operation, and its modifications for dividing the cervix, uterodectomy, and Dr. Gaillard Thomas's method of reviving the edges and bringing together the sides of the lacerated cervix, the latter, the only reasonable one of the three, would appear to be operated at cross-purposes with the two former, on an alternate system of ruin and repair. Why should the gynecologists do with the scissors or knife what they deplore so much when the injury results from parturient efforts? All must have noticed how common it is for parturient laceration of the cervix and incomplete involution to exist in the same womb at the same time, owing, evidently, to the fact that, the constrictor cervicis having been torn, the antagonizing longitudinal and oblique fibres were deprived of the point of support through which alone their power to contract and diminish the cavity of the womb could have been rendered effective. Bilateral division or laceration of the healthy cervix, when done with scissors, is often cut horizontally from the os tincæ to its union with the body, and nothing is afterwards done to repair the wound; but the moment the same thing, laceration of the cervix, less in degree, happens during labor, the surgeon goes to work to repair damages, revive the edges, unite the surfaces by approach, and bring about, if he can, union by the first intention; and the longitudinal and oblique fibres, having been thus supplied with a restored *point d'appui* on which to act, contract with effect, and bring about complete involution, which laceration of the cervical fibres had hitherto prevented; meanwhile, the artificial and, as a rule, more complete laceration, left open and gaping for months or years, is often a source of permanent ill health and disability to the patient. It is therefore apparent that these operations stand in the light of surgical contradictions. If it is right — and no one can doubt the propriety of the operation — to repair parturient laceration of the cervix, why is it not just as proper to mend more extensive injury of a like kind done by the knife or scissors of the *gynecologist*? If Dr. Thomas's operation for parturient laceration of the cervix is a proper one, which no rational surgeon can question, then, undoubtedly, every woman who has horizontal or other bilat-

eral section of her cervix made by one gynecologist ought to go immediately to another surgeon and have the grievous wound repaired as soon as possible. In like manner as to parturient laceration, but directly opposite as to surgical results, when "uterodectomy," for its supposed relief of areolar "hyperplasia," is performed, the constrictor oris or cervicis, or musculus retrogradus, is invariably cut asunder, thereby depriving the longitudinal and oblique fibres of the only point of support through which, by contracting, they might otherwise have assisted in bringing about the only rational and physiological mode of recovery, which can only be accomplished by completing contraction or involution, and thereby restoring the unimpregnated uterus to its accustomed place of rest. And thus it must be seen that, instead of good, the operation of "uterodectomy" causes irrevocable mischief, not capable of being, like the lacerated or artificially divided cervix, easily repaired and set to rights. But while the term uterodectomy for an operation is objected to on account of its inexactness and indefinite insignificance, as a name for a society it would be very expressive, have a clear and pronounced signification; and if a "uterodectomy" association were formed, and called the society of uterodectomists, there could be no doubt as to its aims and objects. There being no statistics as to results, the surgery connected with the two operations in question is obscure, hidden, and mysterious, and no other knowledge is vouchsafed to the profession at large, not even the theory on which either operation is based. Uterodectomy performs the same office as the operation of Sir James Simpson, out of which it seems to have grown, the only difference being that the structures divided have changed their situation. If adopted in the disjunctive stage of contraction or involution, it divides the constrictor oris and basin of the uterus, while in the conjunctive stage the funnel-shaped cervix and retrogradus muscle are cut. In fact, the operation of Sir James Y. Simpson, with modifications, and uterodectomy deserve, if any operations ever did, the name of "capital," being so like capital punishments in that the operators, in both instances, display a stolid disregard of both anatomy and physiology; but these differ from each other in one important particular, which is this, — that from the latter only the guilty suffer, while the former claim for their victims the innocent only. Let these operations continue to be persisted in, and the laity will come finally to regard gynecologists, not as enlightened surgeons, but rather in the light of mere revenue cutters on the sea of surgery. If any individual of high title were to advise that the angles of the mouth be cut from ear to ear for the cure of dyspepsia, or that the arches of the palate be divided right and left for loss of appetite, there is hardly a doubt that some people would be found silly enough to obey his precepts.¹ In this connection it may be interesting to refer to what Dr. Holmes says about titled individuals, and what slogdogdoes they are to the progress of rational medicine. The operation I have deferentially to propose for the consideration of eminent surgeons grows out of the anatomical, physiological, and pathological views of the situation, and is intended to accomplish not only imperfect contraction and incomplete involution, but also to relieve the very serious pathological lesions resulting from this dislocated condition of the uterine structures. *It is to open the cavity of the abdo-*

¹ Homeopathy and Kindred Delusions, by Oliver Wendell Holmes.

men low on the line of the linea alba, and tie with suitable animal or metallic ligature the uterine artery, being careful not to include its accompanying vein, and still more careful not to throw the ligature around the broad ligament. To be assured, in the first trials, that the uterine circulation will be, through collateral vessels, perfectly reestablished, it might be well to place the ligature beyond the first branch of the uterine artery going to the cervix; after the uterine artery is tied, then, within four or five days, or at all events before circulation is reestablished by dilatation of collateral vessels, and while the uterus is exsanguinous and shriveled, to dilate the constrictor oris in the stage of disjunction, and in the second advance, or conjunctive degree, to do the same thing so long as the large sponge tents, used for the purpose, can be made to find a heft on the border of the circular muscle. This constrictor cervicis or retrogradus muscle, through which the head of a child has recently passed, may be dilated to any desired extent, and for this object large sponge tents, from half an inch to an inch and a quarter in diameter, are required. And having produced dilatation, then to give full and repeated doses of the powder of fresh secale cornutum, thereby exciting contraction of the longitudinal and oblique fibres, and causing them, by pulling on the circular ones, to force the basin or cervix down to its place of rest, as the foot is, by muscular action, thrust home in a boot. Let it be established beforehand that no adhesions exist, and that the case is a fair one of imperfect contraction or incomplete involution, "subinvolution," lest otherwise the proposed operation might fall at once into unmerited disrepute. This operation ought to succeed in all cases where the results of subinvolution have not gone beyond the first and second stages of hyperæmia; and in hyperæmia with engorgement, and the general hyperplasia of Virchow it ought also to be a success, in most cases; but in the fourth stage of areolar hyperplasia, recognized by Dr. Thomas, it would (unless in the commencement of this condition) be unreasonable to look for satisfactory results. The only possible argument to be brought against a trial of the proposed operation of tying the uterine artery for the relief of imperfect involution has its origin in the prejudice or mysterious dread, together with ominous forebodings of evil, entertained by many, of opening the everywhere closed cavity or sac of the peritonæum. "It is extremely dangerous to open the cavity of the peritonæum:" they learned this dogma at school, and it has been ever since a settled opinion they cannot get over. But when it is remembered with what perfect safety the cavity of the abdomen has been opened hundreds of times by ovariologists in the two hemispheres, the arguments against such procedure amount to a nullity. Would it be unreasonable to hope that the foregoing words may serve to unlock the mystery connected with uterine pathology, complained of by a leading gynecologist, and at least help to put him and others on the right path for which they are searching?

2 RUE DE PRESBOURG, PARIS, FRANCE, May 27, 1880.

— At a recent meeting of the New York Pathological Society, according to the *Medical Record*, Dr. Delavan presented the heart of a setter dog, in the muscular substance of which there were nine large-sized buckshot. As the dog had not hunted for a number of years it was fair to presume that the shot had been carried for a long period.

CONGENITAL MALFORMATION: COMPLETE ABSENCE OF ANUS.

BY H. HOLMES, M. D.

AUGUST 4, 1880, Mrs. R.—gave birth to a boy, her fourth child, weighing eight pounds. The infant seemed vigorous, and cried lustily. The parents both are healthy and strong, as are their previous children.

Before my visit, the following day, the superannuated nurse had discovered the child had no anus. There was a complete absence. With the assistance of a neighboring physician and ether, the child was operated upon when forty-eight hours old, with the following result: the raphe of the scrotum extended past the site of the anus to the coccyx, but no impulse could be obtained by taxis where the anal orifice should be, nor could the meconium be seen, showing the septum to be something more than a membrane.

An incision at the site of the anus along the central line, an inch or more in extent, was made by careful dissection through a mass of fibro-cellular tissue, penetrating the pelvic cavity nearly an inch and a half before meconium was reached. The incision was carried back well towards the sacrum to avoid wounding the bladder, which I endeavored to empty before commencing the operation, and this afforded a point of especial interest. The gentle pressure made over this viscus forced from the penis no urine, but meconium; the pressure was repeated, with a like result, furnishing enough of the discharge to leave no doubt as to its character. It would be interesting to know just how or where this secretion found its way into the urethra, but no autopsy could be obtained. This complication, together with the depth of the incision, discouraged any attempt to drag down the mucous membrane of the bowel (as suggested by Amussat) to the anal orifice, and confine it there by sutures.

The nurse was an octogenarian, and was not persistent in her efforts to nourish the child, and the parents were impressed that the more nourishment it took the longer it would suffer; and it died on the eighth day from its birth, and the fifth from the operation.

LEXINGTON, August, 1880.

RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D. HARV.

AMYL NITRITE IN POST-PARTUM HÆMORRHAGE.¹

HAVING observed the statement by Dr. Koehler, in the *Allg. med. Central-Zeitung* (No. 1, 1879), that he had been in the habit of using, for seven years, warm fomentations to the head in cases of uterine hæmorrhage, on the theory of arresting intercurrent cerebral anæmia, Dr. Kerr suggests that amyl nitrite has the property of inducing a rapid dilatation of the cerebral blood-vessels. Feeling a confidence in the correctness of Dr. Koehler's theory, Dr. Kerr used five minims of this drug by inhalation to relieve rather a severe case of post-partum uterine hæmorrhage, and with the most satisfactory results. The hæmorrhage at once and permanently ceased, the patient reviving simultaneously from a state of syncope. Its effects were comparable to those which follow the hypodermic injection of ether.

¹ British Medical Journal, November 1, 1879.

HYDROCHLORATE OF APOMORPHINE.

From a series of experiments² Dr. Reichert draws the inference that this drug depresses the functions of the sensory nerves and peripheries, the latter being more easily affected, whereas the afferent or motor nerves are primarily stimulated, and then paralyzed. The convulsions which occur after poisoning by this drug are, he thinks, caused by a paralysis of the inhibitory reflex centres. The antagonistic views of Harnach are, in his opinion, erroneously based, owing to the fact that the action of the drug in Harnach's experiments is confused with the effects of chloral used by him to control the animals previous to the administration of the hydrochlorate of apomorphine. Quehl's suggestion that these convulsions are dependent upon a physiological lesion of the motory and sensory nerves Dr. Reichert condemns as erroneous, because this theory is refuted by experiments which the latter conducted. In these experiments in which the circulation was limited before the exhibition of the drug, the convulsions in the muscles deprived of their central blood supply were as marked as in those muscles which were freely supplied with circulation.

Dr. Reichert concludes from his investigations that the convulsions are usually spinal, invariably so with frogs, though occasionally in mammals they appear to be dependent upon a cerebral lesion. The reporter is rather inclined to the opinion that in this discussion the toxic effects upon frogs should not bear much weight, as in these animals the spinal centres seem to have a higher degree of excitability than the cerebral centres; perhaps, too, our author is somewhat misled by attributing proper therapeutical effects to the large toxic single doses, rather than to the continued use of mild atoxic doses. It is difficult to understand how a drug may act therapeutically sometimes upon the cerebral and at other times upon the spinal centres in the same animal, unless the effects are to be attributed to the employment of doses of unequal strength; in the latter cases a very strong dose might affect in succession the spinal and cerebral centres, whereas a dose inadequate to produce both effects might produce its specific action only upon the spinal centres. Again, it is not improbable that the capital experiment of ligating the aorta or femoral trunk may produce so serious a lesion of the nerve trunks and their peripheries that the natural functions of the extremity deprived of its proper blood supply are suspended without necessarily attributing this to the poisonous agent. It would also appear as if his preconceived theory of a depression of the inhibitory nerves or of their centres embarrasses our author in drawing conclusions from his investigations of the effects which this drug appears to produce upon the circulatory system. Whether the pulse-rate is affected by a direct action of this drug upon the nerve centres of the par vagi or upon its peripheral extremity is not altogether cleared up by Reichert's experiments. Here, again, the capital experiments of extirpation of nerve centres and ganglions seem to confuse the experimenter, for it is well known that this kind of operation severely shocks the functions of nerves and their centres. However this may be, his conclusion is that the increased pulse-rate has no dependence upon the emesis caused by apomorphine, but that this effect is directly induced by the physiological action of the drug upon the nerve centre

² Philadelphia Medical Times, December 6 and 20, 1873, and January 3, 1880.

and the trunk of the par vagi. From his experiments, which were the comparative observations of stimulation of the par vagi after its section from the central ganglion both before and after the administration of apomorphine, Dr. Reichert is convinced that the increased pulse-rate is due to an excitation of the accelerator fibres of the vagus. So, also, he suggests that the diminished blood pressure is "due to a direct depressant action on the heart, and the temporary rise to a stimulation of the vaso-motor centre in the medulla, which is sufficiently powerful to suspend for a time the opposing action on the heart." That most other observers have not arrived at similar results he suggests to be owing to the fact that an impure drug was employed. Dr. Reichert's experiments, relied upon in drawing his conclusions in regard to blood pressure, consist of the immersion of the heart, after its excision, in a (cold or hot?) solution of apomorphine, compared with other observations after its separation from innervating centres. He very naturally infers that the intravenous injection of a toxic dose causes a paralyzing effect upon the heart is explicable by the precipitate projection of a large amount of the poisonous agent into the cardiac cavities, because smaller subcutaneous injections do not apparently affect the blood pressure.

Not having sufficient space to enter into a discussion of his further experimentation, a brief summary of the author's opinion is given in conclusion: The administration of apomorphine in toxic doses produces a failure of the respiratory movements, which results from a paralysis of the respiratory centres. The animal temperature at first slowly rises, and then falls below the normal point. The muscular contractility is weakened and finally is paralyzed by this drug; this effect follows the general as well as topical use. The secretion from the salivary and stomachal glands is increased, whilst that from the skin, urinary and intestinal tracts, is unaffected. The emetic action of the drug occurs in dogs in from two to nine minutes after its administration. Large doses do not cause a stronger emetic action, while toxic doses prolong the intervals of emesis. The act of vomiting is not ascribed to a local action upon the stomach, because it may occur after intravenous or subcutaneous injections, as also after the stomach has been deprived of its central blood supply by ligature of the thoracic aorta. Apomorphine is eliminated very rapidly from the system by all the secretions; in one case two minutes after a subcutaneous injection this drug was found in the egesta from the stomach. The test for the presence of this drug consisted of the determination of the purple precipitate formed from a solution of chloride of gold, which slowly formed in twenty-four hours. This test may be distinguished from a similar reaction of the gold with a tin salt by the fact that the purple precipitant from tin and solution of chloride of gold is unchangeable after boiling, whilst that from apomorphine gradually grows darker, and finally becomes brown. The dilatation of the pupil sometimes observed after the use of this drug is due to the paralysis of the motor oculi centres. No characteristic anatomical lesions are found after death caused by this toxic agent, at least from our author's observations in twenty cases.

Mr. Allan¹ records one case of hysterical coma immediately relieved, after failure of other means of treatment, by the hypodermic injection of one tenth grain of apomorphia.

¹ British Medical Journal, March 27, 1880.

Drs. Tomlinson and Murphy² record the very successful use of the hypodermic injection of this drug in the dose of one sixteenth grain in the treatment of three very severe cases of sunstroke; in two of these cases vomiting occurred within ten minutes after the administration of the injection, previous to which there had been no appearance of nausea. The temperature, which in one of the cases was noted at 109° F. before the dose was given, was slowly reduced under this treatment; the pupils, which were contracted, rapidly dilated, and the stertorous breathing, full pulse, and comatose condition gradually disappeared.

A comparison of the above therapeutical effects with the results of Dr. Reichert's experimental observations would seem justly to indicate that the action of apomorphia is that of a nervous sedative, if such a word might be allowed in connection with symptomatology.

ON HEPATIC STIMULANTS.

An abstract of an experimental research on the physiological actions of drugs on the secretion of bile,³ Professor Rutherford, who has devoted the last few years to this important subject, the details of his experiments having been offered and criticised fully in preceding reports on the progress of therapeutics in this journal, presents, in the essay above referred to, a very able summary of his results. It is hoped that those of our readers who take an interest in this matter will carefully read the abstract so ably argued, as only a very brief résumé can be given in this present report. Among the hepatic stimulants which have not been mentioned in previous reports are taraxacum, sanguinarin, ipecacuanha, potassium sulphate, ammonium phosphate, sodium and potassium tartrate, sodium and potassium bicarbonates, potassium iodide, benzoic acid and its compounds, sodium salicylate, atropia sulphate, morphia, hyoscyamus, alcohol, jaborandi, and acetate of lead. The beneficial effects of ipecacuanha and benzoate of soda and of ammonia in dysentery are especially studied in their physiological effects upon biliary secretion. The former of the benzoate salts are to be given to man in doses of ten to thirty grains, and the latter ten to twenty grains. Both of these salts are powerful stimulants of the liver, and do not stimulate the intestine of the dog, and probably why the use of these substances have been overlooked by the clinical practitioner is to be explained by the fact that they are simply hepatic stimulants, and do not cause any intestinal irritation, hence not increasing, apparently, the expulsion of bile from the intestinal canal. But probably if a dose of sodium or potassium benzoate was given at night, and a purely intestinal stimulant, such as magnesium sulphate, was subsequently given in the morning, evidence of an increased secretion of bile would be proved by its intestinal expulsion. "These results therefore tend to furnish a rational theory for the employment of the benzoates in congestion and some other affections of the liver. In view of the above discovery, we would ask the practical physician to consider the propriety of testing the effect of the benzoates in dysentery; for, while they, like ipecacuanha, powerfully stimulate the liver, and not the intestinal glands, unlike ipecacuanha, they induce no sickness or depression, but, on the contrary, are nerve stimulants. It may also be well to observe that it

² India Medical Gazette, November 1, 1879, and London Practitioner for June, 1880.

³ Practitioner, November and December, 1879.

would be perhaps advisable to increase the administration of the benzoates in ordinary catarrh, for they stimulate the liver as well as the bronchial glands, and the action of the liver in a common cold generally becomes somewhat defective."

Ipecacuanha in doses varying from three to sixty grains is proved beyond a doubt to be a powerful hepatic stimulant to the dog; it also causes an increased secretion of mucus in the intestine, but no secretion of intestinal juice. "The increased biliary flow that followed ipecacuanha could not in our experiments be ascribed to any relaxation of 'spasm of the bile-ducts,' for that no such thing existed was clearly shown by the free flow of the bile before the substance was given. . . . It is therefore certain that this substance has the power of stimulating the secreting apparatus of the liver." Professor Rutherford, in discussing the question as to whether the results of his experiments on the dog will prove that the hepatic stimulants will produce similar effects upon the healthy man, presents forcible arguments, which ought to convince any other than deeply prejudiced minds that his results would coincide entirely with those which would be tried upon man, and says: "*The results of our experiments will therefore lead to new speculations regarding the pathology of dysentery, for every step towards greater accuracy of knowledge regarding the *modus operandi* of any therapeutic agent is certainly calculated to advance our knowledge of the true nature of the pathological condition that is relieved or cured by it.*"¹

Professor Rutherford carefully discriminates between stimulating effects upon the secreting power of the liver and the expulsion of biliary matters from the intestinal canal, and divides hepatic stimulating agents between those which stimulate the liver without irritating or exciting the bowels and those which excite both liver and intestinal glands. He does not seem to incline towards a belief that the simple hepatic stimulants act in this way by a reflex action on the mucous tract of the intestinal canal, nor does he apparently believe that they act by simply increasing the flow of blood through the liver. On the contrary, he asserts that this class of therapeutical agents produce a direct action of their "molecules" upon the hepatic cells or their nerves; but he is not at present willing to decide which of these latter methods appears the most probable. It is sincerely hoped that the whole series of his researches and conclusions will soon be published in a monograph, which will give our readers, and especially the clinical practitioners, an opportunity for proving upon man the therapeutical actions of the large number of drugs with which Professor Rutherford has experimented upon dogs, and the prophecy is hazarded that the science of therapeutics will be raised to a very high standard if his logical deductions be verified.

COTO BARK IN THE DIARRHŒA OF PHTHISIS.

Dr. Yeo² recommends, from his experience and personal observations for two years, this drug in those cases which obstinately resist the ordinary therapeutical uses of opium, bismuth, tannin, ipecacuanha, etc. He has found that relief to the "intestinal flux" and irritation almost invariably follows its use. The form in which he administered the drug was in the mixture of fluid extract of coto bark sixty minims, compound

tincture of cardamoms sixty minims, carefully mixed and slowly triturated with mucilage of gum acacia three drachms, and of simple syrup two drachms, with the final addition of water to make the amount six ounces. The dose of this mixture is a tablespoonful, and he asserts that it has not an unpleasantly warm and aromatic taste. Two or three doses will arrest or check the severest forms of phthisical diarrhœa.

(To be continued.)

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

MEDICAL CASES IN THE SERVICE OF DR. O. W. DOE.

REPORTED BY S. T. HARMON.

HEPATIC ABSCESS.

CASE I. March 31, 1880, M. C., aged twenty-four, single, domestic, born in Ireland, enters the hospital complaining of "soreness" in the right hypochondrium, and of severe pain in the same region on any sudden movement, such as coughing, sneezing, etc. She says a "tumor" suddenly appeared in the right side about two months ago, without any apparent cause, and was attended with some vomiting at first, but none lately; states that vomitus was always of a greenish hue, and very bitter. Has had several chills, and has lost flesh and strength. Anorexia; tongue clean; bowels regular; micturition normal; temperature 98.5°; pulse 100. No catamenia since she was sixteen years old. Says she is not addicted to the use of stimulants.

On examination, there is found in the right hypochondrium, four inches from the median line, just at the border of the ribs, extending downwards to a point on the line of umbilicus, and from there to the axillary line, a swelling, smooth in outline, globular in form, with a sense of elasticity on pressure and tenderness on percussion.

Pressure over the tumor imparts no impulse in the renal region posteriorly. No point of separation detected between the swelling and the liver.

Urine, color normal; specific gravity 1017; acid; a trace of albumen. Sulphate of quinine, three grains three times a day.

April 2d. Pulse 96; temperature normal; tongue moist, with thin white coat. Has had three dejections daily since entrance, of a yellow color, and attended with some tenesmus. Has had chills daily, though not sufficiently severe to cause chattering of the teeth. States that when she lies on the left side the tumor "falls away," and sharp pain results. Tumor aspirated, and four ounces of thick yellowish pus withdrawn.

April 3d. Pulse 96; tongue moist; countenance pale. Had a severe chill yesterday afternoon; marked tenderness over the point of aspiration. Brandy, half an ounce every two hours.

April 7th. No chill since the 2d inst. Bowels moved by a cathartic. No tenderness at the point of aspiration, but the sac is apparently refilling. Dullness extends one inch below the border of the ribs on a line four and a half inches from umbilicus. Tincture of chloride of iron, twenty drops three times a day.

April 12th. Complains of extreme sensitiveness in the hepatic region. Bowels loose, dejections of a light yellow color. Enlargement beneath the ribs occupies the same space as at time of aspiration; sense of fluctuation.

¹ The italics are Professor Rutherford's.

² Practitioner, October, 1879.

tuation more marked; tumor aspirated, and one ounce of mixed blood and pus withdrawn.

April 16th. Tumor apparently larger than heretofore, but without sense of fluctuation. Under ether the aspirating needle again inserted, but no fluid obtained. The needle seemingly entering a mass of the consistency of coagulated blood. General condition remains unchanged. Flaxseed poultice applied to affected part.

April 21st. No chills or pain; pulse 108; patient sitting up; general condition good. Swelling extends three inches from median line, below the margin of ribs to the anterior superior spinous process of the ilium; is hard, and without any sense of fluctuation. Brandy half an ounce, every two hours.

April 26th. Appetite returning; temperature has been normal since the 21st; bowels costive; tumor is somewhat smaller, but is hard, similar to a calcified mass. Brandy three ounces daily; tincture of chloride of iron, thirty drops every four hours.

May 3d. Tumor is gradually diminishing in size; no tenderness, but palpation produces a pricking sensation. Urine pale; specific gravity 1010, neutral. Sediment, granular detritus of yellow color, and very little pus. Brandy omitted.

May 10th. Left border of the tumor is three and three fourths inches from the median line, extends two inches below the margin of the ribs, and is not felt in the lumbar region. It is about the size of a hen's egg, and quite hard, but very little tender on pressure. Patient expresses herself as being perfectly well; is up and out-of-doors.

May 20th. No tenderness over the tumor, which remains very hard, and is felt one inch below the margin of the ribs; temperature and pulse normal.

The patient remained a week longer under observation; but no further diminution in the size of the tumor took place, and the hardness continued unchanged. She expressed herself as feeling as well and strong as ever, experiencing no discomfort from the tumor.

HYDRO-NEPHROSIS.

CASE II. E. R., aged fifty-one, married, housewife, enters the hospital March 21. She has been sick for the past year with occasional severe pain, in right lumbar region, which extends across the abdomen and is attended with flatulence. There is considerable pain referred to the rectum, and patient states that involuntary discharges occur. Some blood is passed by the rectum; occasional vomiting; appetite fair; slight headache; catamenia regular until seven months ago, none since; micturition normal. Complains of weakness and of loss of flesh and strength; has chills and night sweats, the former not as severe as they were. Has coughed for a month past, with muco-purulent expectoration. Bowels were at first costive, but now she is subject to occasional attacks of diarrhoea, in some of which there is a small amount of pus. Defecation attended with considerable pain. Countenance indicative of carcinoma. On examination, there is found in the right lumbar region a distinct swelling, extending from just below the border of the ribs to within an inch of the anterior superior spinous process of the ilium vertically, and to within an inch of the umbilicus laterally. Pressure over the renal region posteriorly causes the tumor to be more prominent, and it can be pressed almost to the median line. The mass is soft in consistence, and globular in shape; whole contour easily defined, with a sense of fluctuation on bimanual

palpation. Examination by the rectum shows a tumor two inches from the anus, encircling the rectum, nodulated and hard in character, though the finger can be inserted through the constriction. Anus patulous, external parts excoriated.

The patient now has an occasional shooting pain, radiating from the renal tumor, but more usually there is a dull aching sensation in the right lumbar region. The countenance is dull and pallid. The tumor was aspirated, and sixteen ounces of a clear, amber-colored fluid obtained, which in appearance resembled urine. Examination of the fluid, by Dr. Cutler, shows specific gravity 1012; much albumen and sediment. An examination microscopically reveals nothing to indicate the source of the fluid.

Urine, high color; specific gravity 1027; a trace of albumen; no casts.

Sherry, six ounces daily; tincture of gentian, one drachm three times a day; and morphia, *pro re nata*, for pain.

March 23d. Some vomiting since last record. The tumor is refilling.

March 27th. Patient has vomited six times since yesterday; dejections mixed with blood.

March 30th. The tumor again aspirated, and six and a half ounces of urine obtained.

April 1st. Examination under ether shows a relaxation of the constriction noticed on entrance; high up in the pelvis, as far as the finger can reach, there are to be felt hard, nodular masses, probably carcinomatous. Countenance is better than for a week past, though slightly swollen; no vomiting. Citrate of iron and quinine five grains, and sherry wine half an ounce, three times a day.

April 7th. Discharges are no longer bloody. Requires a quarter of a grain of morphia every three hours for the relief of pain. Abdomen is not sensitive on pressure.

April 12th. Condition not materially changed; tumor not refilling. In right flank, where aspiration was made, is felt an irregularly defined and nodulated mass, extending below one and one half inches from line of umbilicus to the spinous process; it is sensitive on pressure.

Urine pale; specific gravity 1017; a trace of albumen; some sediment; a small amount of pus.

April 17th. The abdomen distended and tympanitic. The bowels move every other day without blood. Pain continues.

April 20th. The nodular masses have disappeared from over the region of the tumor; the patient has had several dejections containing blood.

April 30th. Sitting up in bed. Countenance much improved; no bloody discharges for over a week; strength is increasing.

May 3d. No renal tumor can be detected, though some tenderness exists just above the superior spinous process of the ilium. A pint and a half of urine passed daily; thick, dark, greenish discharges from the rectum. She is gaining flesh and strength. The anus admits four fingers, and the rectum is found with hard nodular masses, and with its cavity almost obliterated at the depth of one and one half inches.

May 6th. Discharged at her own request.

PELVIC ABSCESS.

CASE III. March 19th. R. G., aged twenty-two, single, born in Germany. Was treated in the City

Hospital in December, 1879, for retroversion with endo-cervicitis; was again in the hospital three months ago with pelvic cellulitis, being discharged relieved at her own request.

Was perfectly well until one year ago, when, during menstruation, she "got a cold," and was seized with pain in the left hypogastrium, which lasted about a week. Catamenia were regular until one year ago, and since that time have occurred irregularly, and, as patient thinks, more frequently, attended with severe pain and considerable constitutional disturbance at each recurrence. The last catamenia began three weeks ago, and have since continued, accompanied by severe pain and excessive flowing. Micturition is frequent, and at times painful. Leucorrhœa present for the past year. She never has had any children. The tongue is furred; anorexia and headache exist; temperature 99° F.; pulse 92.

March 20th. Half a drachm of ergot every six hours.

March 25th. The uterine sound passes two and three quarters inches, points posteriorly, and near the fundus of the uterus seems to pass over a nodulated growth. Three sea-tangle tents inserted.

March 29th. Patient removed the tents in the afternoon of the day in which they were put in.

March 30th. Three tents were introduced to-day.

March 31st. Nothing detected in the interior of the uterus.

April 4th. A chill night before last, with a great deal of pain, and marked swelling of abdomen. Temperature 98.5° F.; pulse 108; tongue frosted; countenance pale; less pain and swelling.

April 5th. The abdomen is distended and painful. Posteriorly and to the left of the uterus is a mass of induration, not connected with the uterus, the size of a small orange, and tender to the touch. Hot flaxseed poultice every four hours, preceded by turpentine stupes.

April 9th. Abdomen much less distended, and less sensitive on pressure.

Over the left side, on a line one half an inch below the anterior superior spinous process of the ilium, is felt marked resistance on palpation, with dullness on percussion, extending across the median line and downwards to the inner third of Poupart's ligament. There has been some hæmorrhage from the vagina during the last four days. The countenance is pale; the tongue is dry and somewhat brown. Frequent dejections yesterday. Temperature and pulse normal. Two grains of quinia three times a day. Milk and beef tea. Blister 2 inches square in left iliac region.

April 15th. There is no distention or tenderness of the abdomen. Tincture of chloride of iron, thirty minims three times a day.

April 19th. Douglas's cul-de-sac to the left is filled with a tense, yielding mass, giving an impulse felt by the hand over the pubes. The aspirating needle was inserted three times, and only half a drachm of sero-purulent fluid tinged with blood was obtained. Hot vaginal douche three times a day.

April 22d. A severe chill last night. The needle was again inserted posteriorly and to the left of the cervix to a depth of two inches, and a small amount of pus obtained; a bistoury was passed along the needle and a free opening made, which was dilated, and a profuse discharge of very offensive pus (three ounces) followed. The edges of the incision were touched with

nitrate of silver, to prevent healing, and the cavity was washed out with carbolic solution (one to forty), the latter to be continued twice a day after dilatation. Four ounces of brandy daily; four grains of quinia every six hours.

April 24th. Her condition is much improved.

April 30th. The sound passes one and one half inches into the cavity. There is very little discharge or induration. The cavity gradually closed, and the patient was discharged well three weeks after the abscess was evacuated.

SUPPRESSION OF URINE.

CASE IV. June 2d. M. M., male, aged fifty-eight, married, born in Ireland. Was taken sick about eleven days ago with pain and swelling of the abdomen, with diarrhœa and some vomiting, the vomitus being greenish in color. There is dyspnœa on exertion, slight cough without expectoration, anorexia, headache, and general malaise. Has passed scarcely any urine since the illness began. The patient is addicted to the use of stimulants. Tongue furred; temperature 98.5° F.; pulse 72, and small. There is œdema of the legs and varicose veins, with an ulcer on the right leg. There is general tenderness of the abdomen, with an occasional pain in the loins, and in the epigastrium. Physical examination: Heart and lungs normal; hepatic dullness begins at the median line, and extends into the axillary region to the border of the ribs. The abdomen unnaturally dull, but resonant in the flanks, measures thirty-five and one half inches at umbilicus. Poultice of digitalis leaves to the loins; citrate of potash thirty grains, tincture of digitalis five drops, water one half ounce, every two and one half hours.

June 3d. Pulse 72; reports between twenty and thirty watery dejections; catheter was passed, but no urine obtained; patient feels quite comfortable.

June 4th. Pulse is 72 and small; talks less distinctly than heretofore; has passed no urine; none was obtained by catheterization. Bowels are free; there is spasmodic twitching of the right cheek; pupils natural; slight headache. One eighth of a grain of pilocarpin, and repeat in an hour.

June 5th. Free diaphoresis was produced by the pilocarpin. Pulse 76; very weak. No dejection for fourteen hours; no urine passed. Patient lies in a dull, semi-comatose condition; pupils natural; slight facial paralysis of the right side; is very restless.

June 6th. Pulse scarcely perceptible; temperature 97° F. No urine passed; low muttering delirium; spasmodic twitching of the legs and arms. Hot cloths ordered to the body; hot bath given at temperature of 110°, but without any apparent alleviation of the symptoms. Three ounces of brandy ordered by the rectum. The pilocarpin was repeated without effect. The patient gradually passed into an unconscious state, and died at 5.15 p. m. The autopsy showed the remains of an old peritonitis, the bands of which had contracted, and in this manner had constricted both ureters, so that above the point of constriction they were greatly dilated, as were also the pelves and calices of both kidneys; the other organs were not particularly abnormal.

— Liverpool has accomplished in a few weeks the self-imposed task of raising £80,000 to endow a university college for the town. This result reflects the highest honor upon the energy and liberality of its citizens.

Reports of Societies.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

It is seldom that the British Medical Association holds its annual meeting in a place presenting so much to interest the visitor as Cambridge. The venerable beauty of the colleges, their stately chapels, halls, and libraries, and the artistic, literary, and antiquarian treasures therein contained, with their noble grounds, still in the bloom of summer, are an intellectual feast to those who have never seen them before, even more, perhaps, than to those who have passed the spring-time of their youth among the illustrious memories which surround these spots.

The attractions offered drew to Cambridge a larger number than had been present at any annual meeting since that held in Manchester, in 1877. An audience which was unfortunately *too* good (for there were many who could not hear what was said) filled the Senate House to hear the annual address by Dr. G. M. Humphrey, the professor of anatomy in the university, and president of the British Medical Association for the year. The retiring president, Dr. D. C. O'Connor, of Cork, took leave of the Association, and introduced his successor in language at once thoughtful, dignified, and graceful. Dr. Humphrey then delivered his address. It seems as if it were custom—one only too well observed—for the president, chosen as he is from the medical men of the locality in which the Association is to hold its meeting for the year, to make his annual address chiefly a description of the town in which he dwells,—its history, sanitary condition, and the diseases prevalent in its neighborhood, matters which are unquestionably of importance, but hardly of that general and universal interest which it is fitting that the theme of an oration delivered on such an occasion should possess. Even Professor Humphrey could not shake himself free from the *genius loci*.

But in his case, he might justly point to the national importance of the topics which concerned the place he lives in. He began with a sketch of the progress of medical education at Cambridge, showing how public opinion and the liberal minds of the leading spirits of the place had gradually dethroned the scholastic subjects, classics, and mathematics from the exclusive place of honor they had once held. He expressed his view that the proper function of his university was with the earlier part of medical education,—with chemistry, physics, anatomy, physiology, and pathology; but that the clinical study of disease must be pursued in the great centres of the population. He announced, to the evident satisfaction of his audience, that a well-endowed professorship of pathology was about to be instituted. It is right, I think, that pathology should be thus included among the *preliminary* studies, for upon it diagnosis and therapeutics depend; they cannot be understood without it; but a man may easily learn what are the changes wrought by disease, before he knows anything about how to recognize or treat it. Not only so, but pathology can be taught in a small hospital, for a few well-marked and well-examined cases on the *post-mortem* table can be made to teach the student pretty thoroughly the morbid changes wrought by the malady present; but for the study of the varying and deceptive appearances which disease assumes during life a large *clinique* is essential. Another line of argu-

ment in support of this view is suggested by Professor Foster's address in physiology, but to this I postpone reference for the present. Professor Humphrey referred in language of just pride to the effect of legislation of the past few years, which made it possible now for men of every class, creed, and nation to obtain at Cambridge a medical education, "not without money, but without any undue cost; not without price, but with the price of that labor and perseverance which will bring their own sure reward."

Passing from the local to the general (although here, as before remarked, it might be truly said that the local and general were one), the orator made some remarks on the work of the British Medical Association. He thought it ought to act collectively, in the ascertaining and recording of the facts of disease; that a well-paid secretary or registrar should be appointed to act with a committee in collecting and classifying the experience of members. This suggestion was welcomed with enthusiastic applause, a special vote of thanks was given to Professor Humphrey for it, and a resolution was passed requesting the committee of council to consider how best it might be carried out. In the face of a suggestion coming from such a man, and so unanimously adopted by such an assembly, it seems presumptuous to say anything which would appear to imply an underestimate of its value. But one cannot forget the old apothegms, "There are more false facts than false theories in medicine," and, *Non numerandæ sed perpendendæ sunt observationes*. The value of the facts and figures which it is proposed to collect will entirely depend upon the extent to which the accuracy of the individual items can be depended upon. To get trustworthy facts by sending circulars round to members of the medical profession, one would not say is impossible, but requires the greatest care and skill in the selection of the subject and the framing of the questions to be answered. The task will be most difficult, and it is open to doubt whether the task would be worth the cost. We had in London a committee, appointed by the Royal Medical and Chirurgical Society, to report upon croup and diphtheria, and another, of the Clinical Society, to inquire into the effects of chloral. Both committees tried to get and classify the experience of a great number of persons. The report of the chloral committee was practically a confession of failure; the statements made to them were so conflicting that they could arrive at no definite result. The report of the croup and diphtheria committee, though a most able and useful document, yet depended for its value not in the least upon the information got in answer to circulars, but entirely upon the individual work of some members of the committee. In the debate upon that report, Sir Wm. Jenner commented strongly upon the worthlessness of the information got by the sending out of circulars.

After Professor Humphrey's able, thoughtful, eloquent, and earnest address, which was universally felt to have been worthy of the place and the occasion, came the business part of the meeting. The usual votes of thanks were passed: to the retiring president, whose genial courtesy had left the most friendly feeling in every mind, and to the orator, whose brilliant address the meeting had just listened to. The speeches embodying these expressions of gratitude were heard with patience and good will; but when Dr. Alfred Carpenter came to the table, and proposed first to read a lengthy report (which was in print in the hands of

many among the audience), and then to make some remarks upon it, the wish of the meeting that the report should be taken as read, and the remarks on it left for some future occasion, was so manifest as to enforce compliance.

The meeting was further prolonged by a proposal from Dr. Norman Kerr, who represented a section of medical men who feel strongly on the temperance question. It was that the price of the dinner ticket should not include a charge for wine. He advocated this change on the grounds, first, that he and others felt so strongly the evils produced by intemperance that they could not conscientiously subscribe money to be expended in furthering the consumption of alcoholic drinks; and, next on the lower ground, that it was not fair to make men pay for what they did not want. After some discussion, made shorter by the evident desire of the members to get to the hospitable halls of Caius, where tea and coffee were awaiting them, Dr. Kerr carried his motion, and the meeting adjourned. The hall of Caius proved too small for the crowd who flocked thither to consume the beverages most precious to Dr. Kerr and his friends, and to exchange opinions upon the events of the day.

I ought not, perhaps, to have left for mention last of all that at four p. m. the Association attended divine service in King's College Chapel. The noble building was densely crowded, the audience being attracted, doubtless, by the beauty of the edifice, which possesses the most magnificent interior in Cambridge, as well as by the known perfection of the musical arrangements, and the reputation as a preacher attained by the prelate who occupied the pulpit, Dr. Woodford, the Bishop of Ely. He took for his subject the rendering of the bitter waters of Marah sweet by the casting into them of a certain wood.

On Wednesday morning the Association met in the Senate House to hear from Dr. Bradbury, the Linacre lecturer on physic in the university, and physician to Addenbrooke's Hospital, Cambridge, the Address in Medicine. The oration delivered was sound, scholarly, useful, and suited to the occasion, but did not contain anything very novel, either of fact or idea. Its object, a very appropriate one, was to direct attention to recent advances in medical knowledge, more particularly to such as tend to make medicine more exact, and therefore more of a science. To do this, the operator took one by one the instruments of precision which are now used for physical diagnosis, — the microscope, the thermometer, the ophthalmoscope, the laryngoscope, the sphygmograph, the aspirator, electricity, etc., — and pointed out some of the ways in which these aids to observation have lately been shown to be of especial use; the peculiar character and value of the service rendered by them being, that the information they give is objective, definite, and often measurable. The tale they tell is not influenced by the patient's feelings or wishes; they give results which no malingerer can simulate. We know that scientific knowledge only differs from common knowledge in that it is exact; and so far as its teachings are exact, and no further, is medicine entitled to be called a science. Therefore Dr. Bradbury did well in handling his topic in the way he did; for as a skillful general concentrates his forces upon the most decisive point, so the orator selected as the point upon which he would show that progress had been made just those in which improvement is the most fruitful in results. He did not exhaust his subject, for to do so would

have been impossible in the time allotted to the address.

It unfortunately happened that circumstances were fresh in the minds of many which made the teaching of the address peculiarly appropriate to the time; although probably the author, when he chose his subject, could not have foreseen its special fitness. I allude to the unfortunate trouble at Guy's, at which institution, one of the largest hospitals and most famous schools of medicine in the world, we have the governing body deliberately acting, and continuing to act, as if there were no such thing as medical science; as though the treatment of disease were a question upon which any one is competent to give an opinion, knowledge being no essential, and the skill of an experienced nurse a thing more to be trusted to for the recovery of the sick than the advice of a medical man. This was felt and put into indignant language by the eminent men, Dr. W. T. Gairdner, of Glasgow, and Dr. Wilks, of Guy's Hospital, who moved and seconded the vote of thanks to the orator. They with others felt that in calling attention to that which distinguishes scientific knowledge from ignorant presumption founded on experience Dr. Bradbury had done that which was useful.

After the address in medicine, which ended at noon, was to come, at 12.30, the conferment of honorary degrees. During the oration a crowd of under-graduates had collected round the gates of the Senate House, and so dense was the pressure that when the university officials tried to empty the hall, in order that it might be prepared for the ceremony which was to follow, they were unable to clear a way through the crowd for those who might otherwise have been willing to go out, and consequently the Association, or part of it (for about half of Dr. Bradbury's audience evaded the attempts of the officials to entice them outside), had to wander during the interval in the garden adjacent to the Senate House. When the preparations were complete, and the doors were again opened, the hall was speedily filled by an assembly anxious to witness what was to follow, for there was a general impression that a "scene" was imminent. The galleries were filled with noisy under-graduates, who enlivened the period of waiting by vigorous shouts to any one who forgot to take off his hat, followed by rounds of applause when the individual uncovered, and by cheers for various well-known names, notably for Dr. Pavy. Lord Beaconsfield, Dr. Tanner, the doctors, etc., etc., were also thus honored by appreciative demonstrations. At length the time arrived, and the confused roar of shouts, laughter, cheers, and conversation from the under-graduates' gallery was suddenly changed into a regular synchronous repetition of "right," "left," "right," "left," with which reminiscence of school-boy drill the students welcomed the procession formed by the vice-chancellor and the university dignitaries who accompanied him, and the distinguished men about to be created doctors of laws. The persons concerned in the ceremony having taken their seats, a little delay occurred while the new doctors of laws inscribed their names in a book, and as Sir William Gull advanced to the table to do this some hisses were heard. The proceedings began with a Latin address to the meeting from the public orator, in which he welcomed the Association to Cambridge, and then, facing the vice-chancellor, he introduced to him in turn the persons admitted to honorary degree, with an appropriate speech

in Latin. Each of the new doctors was welcomed with hearty applause, except in the case of Sir William Gull, whose appearance was the signal for a storm of hisses, hoots, and groans, mingled with a few friendly cheers. As the orator enlarged upon the achievements of Sir William Gull, a voice from the gallery shouted, "Tell that to the coroner's jury!" The demonstration of angry feeling was unmistakable, and it must have been felt by all to be a painful thing, not only to its subject, but to the spectators, for no member of the medical profession could see without deep regret a man so distinguished and so able a leader among his compeers in so unfortunate a position. It is perhaps necessary that I should here explain the circumstances which led to this. Guy's Hospital, London, is governed by a treasurer, who knows nothing of medicine, but who has despotic authority over the institution, being controlled only by a body of sixty governors, who seldom come near the place. Nearly a year ago this treasurer, without consulting the staff, appointed a new matron. This matron had the idea that nursing was a profession by itself, not needing medical supervision, and consequently she, without consulting the staff, began to make sweeping changes in the nursing arrangements. It is not needful to particularize them; it will be sufficient to say that they were very much to the disadvantage of the patients, and that their general tendency was to lead the nurses to think themselves independent of the doctors. One result of these changes was the following incident: A patient was admitted, under Dr. Pavy, suffering from phthisis. Cerebral symptoms supervened, one of the first of which was that the patient passed feces into the bed. The nurse took upon herself to diagnose that this was hysteria, and should be treated sharply and roughly. So to punish her she dragged her to the bath-room, put her in the bath with a small quantity of water, "nearly covering her hips," and almost cold, and left her shivering there for an hour. The patient never properly recovered from the shock; the brain symptoms became acute, and seventeen days afterwards the patient died. An inquest was held; Dr. Pavy, the physician in charge of the case, stated his opinion that the bath had accelerated death, and the jury returned a verdict of manslaughter against the nurse. Consequently the nurse was tried at the Central Criminal Court for this offense. Dr. Pavy repeated his former evidence. To the amazement of the profession, Sir William Gull, who had never seen the patient, whose knowledge of the case was derived only from a clinical clerk's notes, and who had not even conferred about it with Dr. Pavy, entered the witness-box, and told the jury that Dr. Pavy had wrongly diagnosed the case, and that the bath had nothing to do with the patient's death.

It will be admitted by all that Sir William Gull showed great courage in coming forward as he did (for he must have known that he would incur great unpopularity by doing so) to defend the unfortunate nurse; for to her, a lady by birth and education, a sentence of imprisonment is a terrible thing. His conduct, from this point of view, was noble and chivalrous. It is to be regretted, however, that he did not take more care in ascertaining the facts, and show better taste and stricter accuracy in the way he stated his opinion. It was surely not necessary for him, with such incomplete material for judgment, to tell the jury that his colleague, Dr. Pavy, had not properly diag-

nosed the case, or that when *he* was physician to Guy's he always dictated the clinical reports himself.—a statement which Dr. Moxon has since flatly contradicted in a letter to the *Times*. It is probable that many of those who took part in the demonstration had in mind not this case only, but others, in which Sir William has seemed to magnify himself before the public eye at the expense of the reputation of others.

In the evening a *soirée* was held in the Fitzwilliam Museum, a noble building, containing many treasures of painting and sculpture, which was illuminated for the occasion by Dr. Siemens with the electric light, and the adjoining grounds of Peterhouse. It was very largely attended,—so much so that the president, who took his stand near the door to receive each guest personally, soon had to abandon the impossible task.

The proceedings of Thursday began with the address in surgery, which was given by Mr. Timothy Holmes, of St. George's Hospital, London. Although the orator dealt with a limited subject of purely surgical interest, yet his clear, forcible, incisive style, combined with a good voice and delivery, held the attention of his audience. After gratefully alluding to the changes which since his time had been made in the University, in opening its portals to students of all creeds, and in furthering the study of medicine in it, Mr. Holmes announced that he intended to direct attention to the work of Sir Wm. Fergusson, whom he eulogized as being the only one of all departed surgeons since Brodie's death who had passed the line which separates eminence from greatness. Fergusson's great surgical exploit was the introduction of conservative surgery; and the application of this principle to joint disease—in other words, the operation of excision of joints—Mr. Holmes selected as his principal subject for consideration, taking more particularly as examples the hip and the knee; showing what amount of advantage is to be derived from them, and defining the place they hold among the resources of surgery. In concluding his remarks on this topic, the orator made his purely surgical subject introduce some observations upon matters of general interest. He used hip disease, and its common course in the children of the poorer classes in our larger towns, as an illustration of the mischief done by overcrowded out-patient departments: evil wrought not by want of skill on the part of the surgeons, or want of care on the part of the parents in carrying out, so far as they are able, the directions they receive: but by the hospital undertaking to do that which it is impossible it should perform. The remedy Mr. Holmes advocates is some kind of provident dispensary system. Whether this can be made a real improvement or not is open to doubt. As yet, I believe very few, if any, of the provident dispensaries have been successes. The oration concluded with a grateful expression of appreciation of the labors of Professor Lister.

Dr. Michael Foster, in his address in physiology, which was given on Friday morning, avoided dealing with minute technical points, intelligible and interesting only to the advanced student of the science, but set forth broad principles underlying medical practice and medical education. He showed the intimate and essential connection, in fact, the fundamental identity (for "none other than the most superficial distinction" separates them), of physiology and pathology. Hence followed the importance of physiological studies in early professional life, for a sound physiological train-

ing is that which enables a man to understand the pathological problems which every day present themselves in practice. The practical outcome of his address was a plea for giving more time and greater prominence to physiology in the education of the student. Dr. Foster did not waste much breath in denouncing *materia medica*: that toilsome, almost useless study, only holds its place because it is in possession: the case against it has been put strongly by others, and it is to be hoped it may soon be ousted. He attacked a tradition more honored than this, namely, the necessity of a minute knowledge of topographical anatomy. He admitted the value of this study, not only for itself, but as a discipline; but pointed out that the amount of other things to be learnt had much increased since the present arrangements for teaching anatomy, and examining students in it, were made. The address was not only thoughtful, but even eloquent, and was seasoned with a good deal of quiet humor. At times the orator was epigrammatic; for instance, after showing how practice is governed by theory, he said: "The so-called 'practical' man is the most abject slave to theory of all, for his theories are unknown tyrants, hidden from himself." And in condemning studies pursued merely with a view to the requirements of examinations, he spoke of the man whose knowledge is of that kind only, as "literally exchanging his knowledge for his diploma." The modifications in the curriculum of medical study which Dr. Foster suggested were heartily indorsed by Professor Lister (who moved the vote of thanks) and by the president, who said that Dr. Acland, the President of the General Medical Council, had just come to him and said, with reference to the address, "This ought to be written in letters of gold; and let us take it into consideration at the General Medical Council." If Dr. Foster's address should be the means of getting the Medical Council to do more than consider and discuss, he will have done great good to the Council, as well as to the profession.

The increase in the number of papers at the annual meeting, and the consequent multiplication of sections, makes it impossible for any one to attend them all, and therefore much must be left that one would much like to hear. The section which offered the chief attraction was that of pathology, the chairman of which was Sir James Paget, whose address, entitled *Elemental Pathology*, completely filled the room, both galleries and gangways, in which it was delivered. So great was the desire to hear this, that the other sections had to be adjourned for half an hour. The address dealt mainly with vegetable physiology. Sir James traced in plant life, and also in mineral structure, analogies to the morbid changes which are met with in the physical frame of man. The processes of hypertrophy, senile degeneration, inflammation, and repair, were illustrated by examples from the vegetable kingdom. The address was marked by the clearness of style and grace of diction which the profession always look for, and never with disappointment, from Sir James Paget. It occupied nearly an hour in delivery. The other attractions in this section consisted in a masterly address by that acute observer Mr. Jonathan Hutchinson, which opened a discussion upon the influence of injuries and diseases of the nerves upon nutrition. He divided the opinions held upon this point into two groups: one maintaining that all such action was simply vaso-motor; the other accepting in addition a special trophic influence. He

himself inclined to the former view. The discussion did not bring out anything of much importance beside Mr. Hutchinson's remarks. There are few, indeed, who can see further into a pathological problem than he can.

In the section of medicine, a discussion on hysterical anesthesia was opened by Dr. Bristow, in a speech which rather lacked point and conciseness, being too much a simple statement of his own observations, and a recapitulation of those of others, without a sufficiently distinct indication of what the speaker thought were the scientific generalizations to be drawn from the facts. Among the rules laid down for regulating the discussions was one, that each paper, or opening of a discussion, was not to exceed a quarter of an hour, and subsequent speeches ten minutes. Dr. Bristow spoke for nearly three quarters of an hour. It is a pity that rules should be made if they are not kept. The meeting was very glad to hear Dr. Bristow, but if his remarks had been more concentrated it would have been better.

The first speaker in the discussion was Dr. Matthews Duncan, who spoke in strong and plain language, pouring scorn on the whole thing. He ridiculed the idea of identifying by touch, or compressing, the ovary by abdominal palpation; and stated his belief that the phenomena which had been so much talked about, and are to be seen at the Salpêtrière, are artificial: not meaning by that word that there is collusion, but that the patients are simply hysterical women who have educated themselves, through periods of months and years, to produce the phenomena which the medical men unconsciously let the patient find out that they expected. The general tendency of subsequent speakers, influenced, no doubt, by cases such as those narrated by Dr. Barlow (who described instances of similar phenomena occurring in infants), was to accept the descriptions given by Charcot and others, as records of genuine disease, although as yet unexplained. The especial object of Dr. Duncan's skepticism was the alleged connection of the hysterical phenomena with disease of the generative organs. This is a subject about which it is extremely difficult to come to an opinion; it is possible that further investigations into the nature of these cases may throw light not only on hysterical anesthesia itself, but on the general subject which has been debated for the last thirty years or more, of the connection of uterine and ovarian disease with reflex symptoms.

The discussion next in importance was that upon asthma, introduced with his usual eloquence and fertility of illustration, by Dr. Andrew Clark. In the surgery section the treatment of urethral stricture was debated, the subject being opened by Sir Henry Thompson. The antiseptic system was brought under review by a paper by Dr. McVail, of Kilmarnock, in which he gave statistics of ten years' work in the infirmary of that place. His results were splendid, although he had not followed in detail what is known as "Listerism." His treatment, however, was antiseptic in principle. Mr. Lister spoke at great length, giving an account of experiments into the mutual relations of blood clot and bacteria, and narrated a case which had puzzled him until he was able to account for the occurrence of suppuration by supposing that a bacterium had crept in through a drainage tube. Mr. Erichsen expressed himself with great force upon the value of drainage, "the key-stone of all treatment," as he styled it. The

spray, and the filtering of the air, he regarded as non-essentials.

In the obstetric section the chief attraction was the discussion upon the removal of uterine tumors by abdominal section, which was opened by Mr. Spencer Wells. Little that was novel was brought forward, and more than one speaker wandered sadly from the point.

It is not possible, for no one can be in two places at once, for me to give an account of every section. Many who were there must have found themselves, with regard to the sectional meetings, much in the position of Captain Macheath, — "How happy could I be with either."

The public dinner was held in the hall of Trinity College, on Thursday evening, and the convivial enjoyment, if listening to speeches can be so called, lasted till after eleven o'clock. On Friday afternoon the President gave a garden party, which was largely attended, in the beautiful grounds of King's College. The Concordia, a glee club composed of members of the university, sang, to the visitors' delight, in the most finished style, some charming vocal pieces. In the evening a conversazione was held in St. John's College and its grounds. It was also crowded. The grounds were beautifully lit up with Chinese lanterns; the beautiful covered bridge (known as the "Bridge of Sighs," from its resemblance to that in Venice) was illuminated with colored fires, which made prominent its beautiful outlines. A band performed on the lawn, and in boats on the river glee singers were rowed from place to place while they sang. I ought before to have mentioned that organ recitals were given on the magnificent instruments belonging to Trinity College and King's College, on Wednesday and Thursday; the latter attraction being provided for those who did not attend the dinner. On Saturday business was at an end, and excursions to Ely, Peterborough, and other places of interest, occupied those members of the Association who remained in Cambridge.

On the whole the meeting was a great success, more so, perhaps, from a social than a scientific point of view, but none the less a thing to be remembered with pleasure and satisfaction.

Recent Literature.

Treatise on Therapeutics. Translated by D. F. LINCOLN, M. D., from French of A. TROUSSEAU and H. PIDOUX. Ninth edition, revised and enlarged with the assistance of CONSTANTINE PAUL. Two vols. New York: William Wood & Co. 1880.

Among the many modern works on therapeutics it is well to look back at the literature of a few years ago. Certainly the opinion of so great a clinical instructor as Dr. Trousseau is well worth the trouble of translation, for reference by our English-reading physicians. The views of Trousseau in regard to the therapeutical action of drugs in the treatment of disease were far in advance of his contemporaries, and it is rather a matter of surprise to us that the presentation in English of his great work on therapeutics has been so long delayed.

We miss the names of many modern drugs which have obtained a deserved reputation among practitioners of the present time, but the perusal of this work will well repay the medical practitioner for information

he will gain in the treatment of his daily cases of illness. The theory of this treatise is so well adapted to the general study of therapeutics in its relations to disease that we cheerfully recommend it as an educational task, and its style of writing makes its reading a pleasant occupation. The classification and general arrangement of the work is well known to many of our practitioners, because so often referred to in his lectures by our late popular professor of therapeutics, Dr. E. H. Clarke. The translation is rather fairly presented, though in some places we observe that the translator has had difficulty in freeing his English from some of the peculiar French idioms of the original, and in other places the peculiar terse language of the original appears somewhat more abrupt when the words are rendered into English; as an illustration we introduce the following sentence: —

"An important distinction between the neuroses, debilities, erethism — of the stomach, or any other organ of the whole system — and inflammatory diseases is the fact that in the latter function and act are blocked, the vital manifestations abolished, stupefied, impotent; while in the former, all these are exalted, exaggerated, mobile, aroused on the slightest occasion, in a word, have sensations and movements of which a merely inflamed part is incapable."

We cannot well understand how any library of therapeutics can be maintained without Trousseau's treatise, and if the original French cannot be mastered this English translation will be gladly welcomed. A.

The Practitioner's Handbook of Treatment; or, The Principles of Therapeutics. By J. MILNER FOTHERGILL, M. D. Second American from the second English edition, enlarged. Philadelphia; Henry C. Lea's Son & Co. 1880.

The first edition of this work received at our hands an extensive review. The rapid sale of this book has called for a reprint, and the author has added in the present edition, on page 50, remarks on the subject of When not to give Iron, which were first published in the *Practitioner* for September, 1877; this matter deserves careful consideration by the clinician. Again, on page 370, the discussion on the Antagonism of Therapeutic Agents, which was presented in a prize essay, in 1878, by our author, is here introduced. On page 465, Dr. Fothergill extends his original treatment of the "reflex disturbances in the stomach" in relation to ovarian irritation; and on page 612 suggests some practical hints on the artificial digestion of foods which would apply in cases of dyspepsia. A.

— *Lyon Médical* tells us (*Medical Press and Circular*) that Dr. Dor, who for the last two years has used the benzoate of soda with great success in the purulent ophthalmia of infants, has recently had the opportunity of treating a well-marked case of gonorrhœal ophthalmia, recovery taking place in a few days, without any opacity being left. He kept iced compresses constantly to the eye. The benzoate of soda was employed in a 20 per cent. solution, and tannin in a 10 per cent. solution, ten drops being instilled every three minutes. All secretion which issued from the eye was removed by means of a wash consisting of 100 per cent. solution of benzoate.

Medical and Surgical Journal.

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PHYSICAL EXERCISE AND HUMAN ENDURANCE.

THE increased attention which has been given in this country within the last few years to out-of-door and athletic sports of all kinds has given rise, we doubt not, in the minds of many practitioners, to the inquiry, How far physical exercise is of value in preserving health; and with this comes also the question, What are the limits of human endurance? The latter, indeed, has been discussed with unusual zeal since the Tanner experiment has been brought to a close. Although from a scientific point of view the "fast" must be considered of no value in settling the amount of power possessed by the human frame to subsist without food, the subject has been freely discussed in professional journals, and we presume that their readers have been considerably enlightened upon a point with which they supposed themselves to be tolerably familiar.

In a recent number of the JOURNAL we published a very interesting letter from Japan by Dr. J. C. Cutter, who had charge of a patient who had been lost in the forest in a snow-storm, subsisting upon nothing but snow for twenty-five days. Upon the moderate diet of weak tea, boiled rice, and a little dried fish a Japanese "hackman" will draw his man fifty or sixty miles, and has even been known, if we may trust the informer of our correspondent, to do his ninety miles in the twenty-four hours. What can our well-fed Anglo-Saxon athletes do in comparison to this! In recent numbers of *The Lancet* there has appeared a series of articles on athletics, where we find what a Hindoo coolie with his slim muscles and rice diet will do. "A hill coolie will go thirty miles, with an ascent of five thousand five hundred feet, in three days, carrying eighty pounds weight, the weight carried on a frame supported on the loins and sacrum, and aided by a band passed round the forehead, — work per diem five hundred tons lifted one foot. Eight palanquin bearers carried an officer weighing one hundred and eighty pounds, and the palanquin weighing two hundred and fifty pounds, twenty-five miles in Lower Bengal; assuming each man weighed one hundred and fifty pounds, the work was six hundred foot-tons per diem."

These facts show both to what extent training and habit can increase human physical power in certain directions and how unevenly distributed is the capacity for unusual bodily exertion. The remarks of the writer just quoted apply these truths forcibly to every-day life; he says: "The estimate, therefore, of the amount

36

of exercise that may be taken without injury to health in any given case is not to be decided by any hard-and-fast rule, but by observation of the effect that exercise has on the health and development of the individual. And here we would remark, parenthetically, the great advantage it is for schools to have a medical attendant who not only visits the boys when sick, but is constantly brought into contact with them when in health. It is in boyhood that the physical powers are first tested, and it is of the utmost importance that the experiment be fairly watched."

The school and college boy, whose powers are already strained by academic work, can easily carry exercise at tennis or his training for the boat race to a point which exhausts, either thus permanently enfeebling himself or exposing the system to some acute attack of disease. The training of a mature professional athlete who is obliged to reduce a weight gained during unnatural and perhaps dissipated idleness is the standard usually adopted at our universities by those young men who prepare themselves for the college races, whereas a properly-trained student should pursue an almost diametrically opposite course to that of the professional. Again, the daily exercise suitable for the young man whose bones are not yet ossified and whose organs are undergoing rapid metamorphosis should be so graded that the repair should be always in excess of the waste. Ten or fifteen years later, when his habits have become more sedentary and he finds the obesity of middle age beginning to creep upon him, it will be time enough to indulge in games on a scale which the boys and girls of to-day think themselves quite equal to. The present tennis wave, a game which many fondly imagine to be no greater an ordeal than croquet, will leave behind it the wreck of many a good constitution, — and so with many other sports unless adapted to the physical wants of the player. Decidedly we are in danger of suffering from too great a reaction from our old habits of idleness. The regularity in the pursuit of exercise is a point also which should not be forgotten. Our papers teem in the summer with wonderful excursions performed by city clerks off for a few days' vacation. Exercise to be beneficial should be moderate and constant, and should always be so adjusted to one's physical organization as to be followed by that delicious sense of rest which is an indication of its health-giving and life-prolonging qualities.

OUR NEW PROPHET.

AFTER reading the address of Prof. G. F. Barker, as retiring president of the American Association for the Advancement of Science, we could not help exclaiming, "Is Saul also among the prophets?" Saul's prophecies are unfortunately lost, but to do all that in us lies to prevent Professor Barker's from sharing the same fate, we will lay the most striking of them before the readers of the JOURNAL.

After defining life as "all that cannot be explained by chemistry or physics," he tells us that "While un-

doubtedly much work yet remains to be done in the realm still called vital, the prophetic vision (Professor Barker's, we presume) is already bright which will witness the last traces of inexplicable phenomena vanish, and the words expressing them relegated to the limbo of the obsolete." May the day soon dawn when we shall no longer speak of breathing but of converting hæmoglobin into oxyhæmoglobin, and when the obsolescent word life shall be replaced by its physico-chemicophysiological equivalent! But this improvement in nomenclature is not to be the only advantage of that happy day, for "when the chemist shall succeed in producing a mass constitutionally identical with protoplasmic albumen there is every reason to expect that it will exhibit all the phenomena which characterize its life;" and as "all the properties of animal protoplasm and of the animal organism of which it constitutes the essential part must have previous existence in the plant," the lucky chemist who thus achieves the synthesis of the simplest plant will essentially have prepared the "highest vertebrate" synthetically. But let him not be too sanguine, during his experiments, for Professor Barker expressly stipulates that this artificial protoplasmic albumen must be in the colloidal state. If it should turn out crystalloidal, as the professor seems to dread, — on account, we suppose, of the strong tendency of albumen, gelatine, and other related compounds to crystallize, — then good-by to all chance of its being alive.

Finally the prophet soars into the ether of space, — where we confess we are unable to follow him fully; but from his question, "Is it a wonder that out of such a reservoir (the ether) the power by which we live should irresistibly rush into the organism, and appear as the transmuted energy which we recognize in the phenomena of life?" the thought is forced upon us that the professor intends to outdo Dr. Tanner, and, dispensing with food, support himself for the future exclusively on the energy of the ether.

MEDICAL NOTES.

— H. Blanc, M. D., professor of clinical surgery in Grant Medical College, Bombay, writes to the London *Lancet* that the operation of litholapaxy will find a large field of usefulness in India. In that country, he says, the stones found in adults are often too large to be removed by the old method, and, moreover, that natives are averse to repetition of an operation which they expect will rid them of their trouble at once. For this reason lithotripsy has not been favorably regarded by surgeons practicing in that country. Dr. Blanc then reports six cases of litholapaxy, which did remarkably well. The largest amount of fragments removed was seven hundred and twenty-six grains. The sittings were from twenty-eight to ninety-five minutes in duration. In three of the cases Dr. Blanc made an incision into the meatus. This greatly facilitated the introduction of the evacuating catheter. Details will be found in the *Lancet* for July 10, 1880.

— The state of matters at and in connection with Guy's Hospital, instead of improving, as some people appeared to hope it would after the attempt, feeble though it was, by the committee of inquiry to effect a compromise, is rapidly becoming more and more deplorable. We do not mean to say much about the trial of nurse Ingle, but certainly no good has or can come of it to any one, though the husband of the poor woman, the treatment of whom gave rise to it, may find some satisfaction in having the cause of his wife's death publicly and fully inquired into. The nurse had evidently been engaged without a sufficiently careful inquiry into her previous engagements as a nurse, and she suffers for having been placed in too responsible a position. But out of that trial two new questions have unfortunately risen, — a question of diagnosis, and a question of professional conduct. Is it just to set against a diagnosis of the early part of a case another diagnosis formed on the whole history of the case lightened up by the result of a post-mortem examination? And could the circumstances of the trial justify a physician in appearing, without any compulsion, in the witness box to upset his colleague's diagnosis? We do not attempt now to answer these questions, as they are, or are supposed to be, referred to the Royal College of Physicians. Another great evil has resulted from the trial, — it has given rise to a flood of letters; and, so far, not a ray of light shows among the angry clouds gathered round the Guy's Hospital nursing controversy. We hardly know in what quarter to look for the power and wisdom needed so sorely to save Guy's Hospital and School; but we are sure that one of the first steps necessary to a happy solution of the difficulties is the cessation of the present terrible inkshed. — *Medical Times and Gazette*.

— Dr. E. L. Hussey, of Oxford, writes to the *Medical Times and Gazette* an experience he is reminded of by reading some remarks which we lately made on the administration of chloroform during sleep. He says:—

"About thirty years ago the late Mr. Hester, of this city, asked me to assist him in the operation of removing a small pendulous tumor from the inner side of the thigh in a boy. When we entered the bedroom the boy was in bed and asleep. We administered the chloroform at once without waking him; and when he was well under the influence of it we prepared a table, with the necessary instruments and appliances for the operation and for dressing the wound afterwards. The boy was then lifted from his bed to the table, the tumor was removed, and the wound dressed. He was then put back to bed, and we left the room before he had recovered from the effects of the chloroform. When he afterwards awoke and found a bandage round his thigh, and that the tumor could not be felt under it, he was told by his parents that the tumor had fallen off in his sleep."

— We find in the *Practitioner* that M. Leven (*Le Progrès médical*, May, 1880) pointed out, at a recent meeting of the Society of Biology, in Paris, the great difficulties which often present themselves in practice

in making a differential diagnosis between cancer and simple dilatation of the stomach. In both cases there is vomiting, which is said to be uncontrollable; to stop this symptom, M. Leven recommends that solid food, to the amount of one hundred and fifty grams, should be given to such patients only once a day, in order to avoid congestion of the mucous membrane. The rest of the food for the twenty-four hours should consist of a liter and a half of milk and six eggs. If after eight days of this diet the sickness has ceased it is certain that there is no cancer of the stomach.

— The following interesting case of acute muscular rheumatism of the abdominal muscles simulating nephritic colic and peritonitis in a child eight years old, reported by James Tyson, M. D., is taken from the *Philadelphia Medical Times*:—

I cannot but think that the following report will be useful to those who, like myself, have not previously met an instance of this interesting condition.

I was called, May 28th, to see Nellie S., aged eight years, whom I found with high fever, and complaining of a sharp pain in the præcordium, accompanied also by oppression, which suggested pericarditis. A careful examination of the heart and lungs showed neither to be involved, and I concluded that the pain was muscular. In forty-eight hours it had yielded to simple counter-irritation by mustard and an aconite fever mixture. But at my visit thirty-six hours after I was first called, she complained of a little abdominal pain. As stated, the next morning the chest was quite free from pain, but the abdominal pain had increased. There was also a sharp pain in the lumbar region radiating to that of the bladder, which, indeed, was the focus of greatest pain. The urine was very concentrated, high colored, and acid in reaction. She had previously had a similar attack, with high-colored, scalding urine, with painful micturition, under the care of another physician. These facts inclined me to believe that she was suffering with nephritic colic. Hourly doses of paregoric and an alkaline diuretic mixture during the day failed to give her relief by evening. The anodyne and alkaline mixtures were continued during the night, with poultices, but morning came without relief. Her suffering was now extreme. I increased the anodyne without effect, but by four P. M. her pain was so great and her cries so heart-rending that I thought best to etherize her. At the same time I gave her five-drop doses of laudanum every half hour. By the time she had five doses she dropped off to sleep, and was sleeping quietly at nine in the evening, when I visited her. The next morning the pains had returned. I now thought best to have her bladder sounded by my friend, Dr. Charles T. Hunter, who found it free from any foreign body. At this time the knees were drawn up, the thighs were flexed upon the abdomen and the legs upon the thighs, and any attempt to straighten them caused the extremest torture; the belly was a little swollen, but the pulse did not exceed 100° F., and was not quick or irritable. There could not be said to be fever; the decided fever with which the attack commenced had long before disappeared. I had from the begin-

ning said there was no peritonitis, but I now began to have misgivings. I continued the poultices and laudanum in sufficient dose to subdue the pain. The quantity required for this purpose was found to be less, and a good night was secured by moderate amounts, — not more than two doses of five drops each. The next morning the abdomen was perfectly flat, or rather concave, the very reverse of swollen. The pain had almost completely passed away, and one fourth grain of opium every three hours was sufficient to keep it in abeyance. In the evening she was free from abdominal pain, but complained of pain in her knee and ankle-joint, so that she could not straighten her limbs without much suffering, which I satisfied myself was not in her abdomen. The next day I had to leave the city early, and my friend, Dr. Horace Williams, saw her for me. All the joints of the lower extremity were now involved, — the hips, knee, and ankle-joints, — while the abdomen was free from pain. This settled the matter, and made it certain the attack was rheumatic. Under the use of salicylic acid these symptoms rapidly disappeared, and by Sunday, ten days after the first symptoms appeared, she had completely recovered.

As I stated at the beginning of this report, the interest which attaches to this case lies in the fact that we have in the rheumatism of the abdominal walls a condition which in some respects resembles peritonitis; and while important symptoms were wanting, the resemblance of others was so very close as to cause me much anxiety. The idea of this pain being muscular did not occur to me. A knowledge of its possibility would be of infinite service in another instance, and I felt that it might be to others.

NEW YORK.

— The Board of Health have secured three thousand dollars from the Board of Apportionment for the expenses of the new night medical service. According to the provisions of the act constituting it the city is obliged to pay the physician's fee (which is fixed at the sum of three dollars) in all cases where the patient is supposed to be too poor to pay. It is undoubtedly a great advantage that any one, whether rich or poor, who suddenly falls ill at night, may be able to receive prompt medical attendance, but the system is certainly liable to considerable abuse. All the physicians who are registered for the service pledge themselves to respond at once to any call for medical attendance which may be made upon them during the night, and which is duly authenticated by a police officer, who shall come to his house and conduct him to that of the patient, and it seems altogether probable that among the results of the new service will be an enormous increase in the number of demands made for treatment, and the devolving upon police captains and sergeants of duties which they are not very well qualified to perform. As has been well said, temporary illnesses, which formerly would have cured themselves, will be made the occasion of demands upon the city treasury, and if perchance there be among our physicians "in good and regular stand-

ing" some who have registered themselves for the night service, and are willing to turn into their pockets fees, which, except for that service, would never find their way thither, they have an excellent opportunity to do so by methods not strictly professional.

— The eighth annual report of the State Charities Aid Association has appeared, and shows commendable activity in the various departments of the work of the Association. The present season opened with a reconsideration of the subject of tramps and of reformatories for women, and the result was the preparation of bills providing for the necessary legislation on these points. A bill for the suppression of tramps became a law on the 5th of May last, but the bill providing for a reformatory for women did not pass the legislature. Very little of note on the subject of hospital construction has been brought before the committee on hospitals during the past year. There is still much need of a reception hospital in the lower part of the city, on the east side, and also of one in Harlem. The most important subject before the committee was the care of the insane. The medical board of Bellevue Hospital, at the request of the committee, recently placed the pavilion for the insane at Bellevue under the charge of a physician who is a specialist in nervous diseases, and the committee express the hope that trained nurses will soon be employed there. The committee on the elevation of the poor in their homes call attention to the admirable result of the movement in favor of tenement-house reform, begun by the Association in 1879, and devote considerable space to the organization and working of the "Improved Dwellings Association," which is now in successful operation, with a capital of three hundred thousand dollars. It is a strictly commercial enterprise, but the dividends are limited to five per cent. in order that these improved tenement buildings may be offered to the poor at the lowest possible rates.

— In accordance with a resolution lately passed by the Jersey City police commissioners, the charity hospital in that city has been closed for lack of funds to carry on its work. There were seventeen patients, some of whom were taken to their homes by their friends, and some of whom were received into the Episcopal Hospital, while two or three were put into the care of the poor-master, who had them transferred to the county alms-house at Snake Hill. Unless money is procured from some unforeseen quarter, the hospital will remain closed until December 1st, when the commissioners will be enabled to reopen it with the appropriation made for next year, which is the same as this year's appropriation, namely, fifteen thousand dollars. The latter has now been all expended.

— On the 3d of September no less than fifty cases of small-pox were reported as existing in Troy, and two deaths had occurred from it. Since then, however, the spread of the disease seems to have been controlled by the health officers. All but a few cases are now in the pest-house, and these are closely quarantined. Unless further cause for alarm appeared,

the public schools in the infected districts were to be reopened on the 13th. So far six deaths have been reported.

— Dr. John S. Thorne, for more than fifty years a highly respected practitioner of Brooklyn, has just died in that city in the seventy-fourth year of his age. After graduating at the College of Physicians and Surgeons, New York, he began the practice of medicine in Brooklyn in 1829. He established the Brooklyn Dispensary, was one of the founders of the Brooklyn City Hospital, and was closely identified with the Long Island College Hospital, of which he was one of the regents at the time of his death.

Miscellany.

DR. FISHER'S PAPER.

MR. EDITOR, — Your correspondent of September 9th, Dr. Whitney, has perhaps mistaken a synopsis by the Secretary of the Boston Medico-Psychological Society, of my paper on State of Rhode Island *vs.* Geo. H. Brown, for the paper itself. This synopsis is necessarily very incomplete, and contains one or two unimportant errors, not a part of the original paper. The paper was withheld from publication, as it was learned that another trial was probable, but the synopsis was overlooked. It is desirable that no further discussion of the case be published until it is legally adjudicated, — when the paper as written could be offered for publication. Very respectfully,

THEO. W. FISHER.

LETTER FROM CHARLESTON.

MR. EDITOR, — Charleston has reason to congratulate herself upon the induction into office of her new mayor, Captain William A. Courtenay, an enlightened, energetic, and far-seeing man. He certainly has "reformed it altogether" here.

Referring to medical matters alone, one of his first acts was the appointment of an efficient Board of Health, to which body questions were propounded which had long agitated the public mind, with the request for official reports from the board, and with the assurances of an uncompromising intention on his part of carrying out their views on all subjects pertaining to the health of this city. Indeed, it may be said that a marked impetus, for the first time, has been given to the study of hygiene, even outside of the profession.

The meetings of the board have been always held in the library of the Medical Society, where they still occur. It is designed to arrange an apartment in the City Hall, adjoining the council chamber, for this purpose; and in time to organize a library on the special subject of hygiene, with charts and drawings, plans and models, of all the appliances calculated to serve the purpose or guide the study of the sanitary engineer, and to illustrate the progress of scientific hygiene. Such a library and museum, however limited, will yet greatly advance the study of this science, and it is to be hoped may one day lead to the creation and endowment of a professorial chair of hygiene and public health in our Medical College of the State of South Carolina.

Nowhere has such a reform been more needed than in this city, where the unsanitary condition of its streets and pavements, its imperfect system of drainage, and dangerous cess-pools and privies in proximity with wells and cisterns have so long called for reconstruction on the scientific basis of modern hygiene. Even the profession at large has too long unwittingly indorsed popular views on sanitation, and it is fortunate indeed to discover a determinate resolve to inform itself in a branch hitherto scarcely regarded among the uninitiated as within the commonwealth of medical learning.

Among the earliest reports from this board was that which discussed the accuracy of a very current impression that our artesian water, recently conducted into all parts of the city by water-works, would become necessarily contaminated through faulty and unscientific engineering, which had not only unavoidably laid the cast-iron water-tubes in the vicinage of sewers, but had in some instances transfixed these. The impermeability of cast-iron pipes, their tensile strength and known life or durability, the constant delivery system under a head pressure of fifty pounds to the square inch, and our drains not containing, properly speaking, excrementitious matter *per se*, but being simple receptacles of surface and sub-soil moisture, were some of the arguments, or rather facts, adduced to quiet the public on this subject, who, reading and reflecting, at once became convinced that were these iron pipes as porous as *pumice* stone water would rush out, but no gases could rush in.

This report, however, is only referred to, since it has been republished in several journals, and recently in the *Sanitarian*, and its contents are known to your readers.

The subject of disinfectants next came up, since the previous administration had expended many thousand dollars in causing these to be distributed about the public highways in all parts and corners of our city, until the fumes of carbolic acid were far more of a nuisance, and perhaps more deleterious, than the hypothetical germs which it sought to destroy; and we believe it was wisely determined that no city could be disinfected, not even a square or block of buildings, by methods previously in vogue, at such great expense to the city, but that the proper use of such agents was in the bed-chamber, in vaults and privies wherever excreta could be immediately reached on escape from the sick. This has made disinfection more effective and certain, and far less expensive.

The general cleansing of seven thousand privies has been perfectly well accomplished by the pneumatic odorless apparatus; though an elaborate report upon the proper disposal of sewage, in a sanitary point of view, was presented to the council, urging upon the city authorities the importance of the water-carriage system, as none other can properly compete with the constancy, rapidity, cleanliness, and self-working of this system. The fulfillment of this proposed method would not, in a city like ours, cost more than \$300,000. At eight per cent. interest, this would call for a yearly income of \$24,000. The administration of the system need not cost more than \$6000. Assuming that there are seven thousand dwellings in the city, and estimating them all by the minimum standard of a single closet, and no other plumbing, at a uniform charge of fifty cents per month for each closet, the tax would produce a yearly income of \$42,000. The margin of

\$12,000 would make the enterprise a fair speculation. Increase of population and an increase in the number of closets, sinks, etc., in the better houses would constitute an important extra inducement.

Such a system would secure the absolute removal beyond the limits of the city of all waste, liquid and solid, within a short time after its production, before decomposition could begin. This method of immediate removal of excreta was urged, since, should the city give a franchise to a corporation for this great purpose, there would perhaps be no difficulty in raising the necessary capital.

These old-time privy vaults, tolerated only through long familiarity with such nuisances, have been abrogated by a city ordinance compelling the use hereafter of the enameled surface closet, until the best of all provisions be made for drifting the sewage of Charleston safely out to sea.

RODENT ULCER, LIGATURE OF THE CAROTID ARTERY, ETC.

MR. EDITOR, — Under the caption of Rodent Ulcer, Ligature of Carotid Artery, etc., in No. 26, page 610 [June 24], of your journal, I find a report of a private case of mine, published without consultation with me on the subject, accompanied with copy of one of my photographs of the patient, by Dr. Fairfax Irwin.

However extraordinary such ethical obliquity may be, the circumstance would not have elicited criticism from me had not this report of my case been so inaccurate that I must rectify the misconceptions which will reasonably be formed of it, until I shall prepare a full account for publication in the pages of your journal.

This patient came to the city addressed to me, and I visited him at his residence, East Bay Street. He refused to enter the wards of a crowded hospital, until the Masonic fraternity gave him the means of occupying for a time one of our private hospital apartments as a private pay patient, that he might be under my care. Alarming hæmorrhage required the ligature of the common carotid (not "*external carotid just above the bifurcation*"), use of actual cautery, and an elaborate dissection of the entire growth. The healing process of this vast wound was very extraordinarily rapid, — so rapid that the cicatricial progress for the next day could be predicated by that made on the previous day, as Dr. Taylor (assistant surgeon) frequently remarked. Iodide of potash and Fowler's solution were administered by Dr. Taylor, by my direction. Exfoliation of denuded bone occurred; no resection of bone was performed; and when, his funds being exhausted, he was obliged to leave private quarters, and enter one of the dreaded crowded wards of the hospital, he discovered that a large ward in our Roper Hospital, containing rarely more than five or six patients, was used as the United States Marine Hospital, and he immediately requested to enter it, as he had once been a sailor in the service. This was granted, and I transferred him, as he was up and doing well, to the care of Dr. Glazier, in charge, having had several photographs taken of my patient, intending to publish his case.

The remarkable cure, should it remain permanent, is in my judgment alone due to cutting off all active supply from one half of the head and face by the ligature of the common carotid artery, and not to remedies, of which he had taken a large supply, and which

are generally recognized to be impotent in the extensive ravages of this disease.

Yours truly, MIDDLETON MICHEL, M. D.
CHARLESTON, S. C.

SIR WILLIAM GULL AND THE GUY'S HOSPITAL CASE.

THE following correspondence appeared in the London *Times*:—

"SIR,—It is with extreme regret that I learn from Dr. Pavy's letter in the *Times* of Saturday, that he supposes the evidence I gave at the late trial of the Guy's nurse was an unwarrantable aspersion upon his professional competency.

"As senior consulting physician to the hospital, I was called upon to give evidence in the case, which I did very reluctantly. It is true that I could not read the facts as Dr. Pavy had done, and, in the interests of justice, I was obliged in court to state the convictions at which I had arrived. If in doing so I used any expression beyond the narrowest purpose of my evidence, no one would more regret it than I should.

"Dr. Pavy has a very high and well-deserved reputation, and I shall always feel it both a duty and a pleasure to bear my testimony to it; but there are occasions when personal considerations have to yield to higher calls.

"I could not in my evidence state what was right to the unfortunate nurse, and fair for her defense, so far as it might go, without setting forth facts which seemed to show that there had been some misapprehension as to the nature of the symptoms of the disease under which the poor patient was suffering.

"As what I stated was according to the conviction of my mind, and stated on oath, I am not able to retract a word, though I may deeply regret the necessity which obliged me to give expression to my opinion. I am, sir, your obedient servant,

WILLIAM W. GULL.

74 BROOK STREET, GROSVENOR SQUARE, W. }
August 9th.

"SIR,—Sir William Gull's explanatory letter, in the *Times* of Thursday, needs explanation more than did the assertions he made in court against Dr. Pavy's evidence in the late unhappy manslaughter case.

"He says that, as senior consulting physician to the hospital, he was called upon to give evidence in the case. The conception he thus indicates of the duties of a consulting physician is, I believe, entirely new to the medical profession. In that profession, consultations are supposed to be held between medical men engaged upon a case, with the object of mutual assistance as to the case in point. The idea of a consulting physician who accepts consultations in the absence of and contrary to the views of the physician in charge of a case is unknown to what are called the 'regular' members of the profession.

"Sir William Gull's letter would lead the public to suppose that the consulting physician of a hospital is a personage whose opinion is taken when the views of the acting staff are not satisfactory to somebody. Perhaps Sir William Gull will say who it was that put on him the irresistible pressure which he alludes to in explanation of his appearance in the witness-box. The title of consulting physician to Guy's is purely complimentary. It carries no duties or functions whatever. To speak as though a Guy's consulting physician must

ex officio be consulted is just as though Sir William Gull were to declare himself compelled to pronounce on civil law because he is a D. C. L. Yet Sir William Gull comes forward publicly, and uses the empty consulting physiciancy to cover his appearance in opposition to a distinguished member of the acting staff of Guy's Hospital. His testimonial to Dr. Pavy's professional ability will be met in the medical profession with many a silent smile. '*Qui s'excuse s'accuse*,' and this trite truth applies not only to self-excuse, but it is equally true that to excuse another with a testimonial does but repeat the accusation.

"No good would come of any discussion in the *Times* upon the pathological aspect of the medical differences at the trial. The facts of the case were decisive, whatever the difference in medical views. They left no proper room for any such difference. It was indisputable that the poor victim of the nurse's severity was, up to a given time, the subject of chronic tubercle,—a disease whose duration is months or years; and that her case changed at the time of the ill-usage from a chronic to an acute and rapidly fatal illness, with symptoms of inflammation. If we accept Sir William Gull's views that 'the course of the malady is continuous and universally fatal, the bath' (a prolonged cold bath) 'did not produce any injury to the brain, which is the seat of the malady, dragging the limbs would not produce inflammation of the brain,' it would seem not to matter much what you do to a person rendered entirely secure by this malady. But chronic tubercle of the brain is the strict equivalent of slow consumption of the lungs; it is slow consumption of the brain; and just as a more rapid inflammation of the lungs may be set up in chronic consumption of the lungs, so a more rapid inflammation of the brain may be set up in chronic consumption of the brain. This is the nearest parallel which the science of disease could furnish; and common sense can judge of Sir William Gull's statements. It is a very bold thing to say that ill-usage and exposure are not of a nature to cause inflammation on a brain already irritated by tubercle. This may be Sir William Gull's opinion, but it is not pathology.

"In conclusion, I am obliged to remark that while Sir William Gull is entitled to hold, and if he please to declare, a doubtful opinion as his own, and therefore true from his point of view, he has not the same freedom with matters of fact. Sir William Gull is reported by you to have said: 'The physician governs the clinical report. I was physician at Guy's for twenty years, and I always dictated the reports myself.' In answer to this, I will only say that I was Dr. Gull's clerk for three months, and he never dictated a line of report to me. I have, too, a letter from Dr. James Braithwaite of Leeds, who was my fellow clinical clerk at the time. He says: 'If Sir William Gull stated that he "always dictated his reports," he certainly could not refer to my time. I am also equally certain that Dr. Owen Rees did not dictate his reports.' As Sir William Gull endeavored by his above-quoted evidence to make Dr. Pavy responsible for a clinical clerk's report before the court, I may further add that, whereas I have been physician at Guy's Hospital for thirteen years, I have never dictated a clinical report in the whole of that time. I cannot speak with the same certainty as to Dr. Pavy's custom in this matter. I am, sir, faithfully yours,

"WALTER MOXON, M. D."

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 4, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	529	279	32.89	20.79	10.21	6.05	.57
Philadelphia.....	901,380	297	119	21.89	9.43	2.02	1.68	5.05
Brooklyn.....	564,400	256	155	37.50	19.14	7.42	11.72	1.95
Chicago.....	—	—	—	—	—	—	—	—
St. Louis.....	—	123	48	50.90	13.82	1.63	1.63	6.50
Baltimore.....	393,796	160	66	31.88	11.88	3.12	3.75	6.87
Boston.....	363,938	207	106	38.16	32.37	—	1.93	2.42
Cincinnati.....	280,000	96	45	25.00	12.50	4.17	1.04	6.25
New Orleans.....	210,000	102	34	26.47	5.88	3.92	1.96	—
District of Columbia.....	170,000	72	30	29.17	18.06	1.39	2.78	2.78
Buffalo.....	—	45	25	42.22	20.00	2.22	6.67	4.44
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	60	33	45.00	21.67	3.33	13.33	5.00
Milwaukee.....	127,000	56	39	32.14	23.21	7.14	5.36	—
Providence.....	104,862	36	14	22.22	16.67	5.56	5.56	—
New Haven.....	60,000	30	12	10.00	—	6.67	6.67	—
Charleston.....	57,000	34	16	8.82	2.94	5.88	—	—
Nashville.....	37,000	23	8	34.78	17.39	—	—	8.69
Lowell.....	59,340	36	23	30.56	27.78	5.56	2.78	—
Worcester.....	58,040	22	11	59.09	36.36	4.55	—	9.09
Cambridge.....	52,860	17	7	47.06	47.06	—	—	—
Fall River.....	48,626	41	—	9.76	—	2.44	—	2.44
Lawrence.....	39,068	16	12	37.50	25.00	6.25	—	6.25
Lynn.....	38,376	19	5	26.32	10.53	—	5.26	10.53
Springfield.....	33,536	4	—	25.00	—	25.00	—	25.00
Salem.....	27,347	11	5	36.36	18.18	—	18.18	—
New Bedford.....	27,268	15	4	13.33	6.67	6.67	—	—
Somerville.....	24,964	9	5	22.22	22.22	11.11	—	—
Holyoke.....	21,961	9	6	44.44	44.44	11.11	—	—
Chelsea.....	21,780	8	7	37.50	25.00	12.50	12.50	—
Taunton.....	21,145	—	—	—	—	—	—	—
Gloucester.....	19,288	12	4	33.33	8.33	—	16.67	—
Haverhill.....	18,478	5	2	40.00	—	—	20.00	20.00
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	7	5	42.86	14.29	28.57	—	—
Fitchburg.....	12,270	6	4	66.67	50.00	—	16.67	—
Seventeen Massachusetts towns.....	139,241	61	19	27.87	18.03	1.64	4.92	—

Deaths reported, 2424; 1140 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 754, diarrhoeal diseases 426, consumption 316, lung diseases 121, diphtheria and croup 114, typhoid fever 70, malarial fevers 56, scarlet fever 36, whooping-cough 20, cerebro-spinal meningitis 15, small-pox eight, measles five, erysipelas three, typhus fever one. From *malarial fevers*, New Orleans 17, New York 14, St. Louis eight, Brooklyn five, District of Columbia four, Baltimore and Charleston two, Buffalo, New Haven, Nashville, and Worcester one. From *scarlet fever*, New York, Philadelphia, and Baltimore seven, Brooklyn four, Cincinnati, Buffalo, Milwaukee, and Newburyport two, Pittsburgh, Gloucester, and Pittsfield one. From *whooping-cough*, Baltimore five, Brooklyn and Boston three, Buffalo two, New York, Philadelphia, St. Louis, New Orleans, Pittsburgh, Nashville, and Pittsfield one. From *cerebro-spinal meningitis*, New York five, Worcester and Fall River two, Philadelphia, St. Louis, Baltimore, Lawrence, New Bedford, and Holliston one. From *small-pox*, Philadelphia eight. From *measles*, Cincinnati two, New York, Pittsburgh, and Fall River one. From *erysipelas*, New York, St. Louis, and Cincinnati one. From *typhus fever*, New Orleans one.

Forty cases of diphtheria, 11 of scarlet fever, six of whooping-cough, six of typhoid fever, one of small-pox, and one of measles were reported in Brooklyn; scarlet fever five, diphtheria five, in Boston; scarlet fever 14, diphtheria eight, in Milwaukee; typhoid fever six, scarlet fever four, diphtheria four, diarrhoeal diseases three, in Providence; scarlet fever seven, cerebro-spinal meningitis one, diphtheria one, in New Bedford.

In 84 cities and towns of Massachusetts, with a population of 1,019,851 (population of the State 1,783,812), the total death-rate for the week was 25.89 against 24.00 and 27.21 for the previous two weeks.

Total number of deaths, deaths under five years, and deaths from diarrhoeal diseases, all decreased in about the same proportion.

For the week ending August 14th, in 149 German cities and towns, with an estimated population of 7,636,588, the death-rate was 28.6. Deaths reported, 5199; 2614 under five: pulmonary consumption 412, acute diseases of the respiratory organs 193, diphtheria and croup 100, scarlet fever 94, typhoid fever 60, whooping-cough 52, measles and röteln 48, puerperal fever 13, typhus fever (Thorn, Mülheim, Mannheim) three, small-pox (Königshütte) two. The death-rates ranged from 11.8 in Weisbaden to 44.9 in Stettin; Königsberg 38.6; Breslau 36.4; Munich 31.3; Dresden 25.7; Berlin 28.3; Leipzig 31.3; Hamburg 28.8; Bremen 21.9; Cologne 32.3; Frankfurt 19.2; Strasburg 30.7.

For the week ending August 21st, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.3. Deaths reported, 3490: diarrhoea 864, acute diseases of the respiratory organs 167, scarlet fever 105, whooping-cough 60, measles 48, fever 40, diphtheria 15, small-pox (London) four. The death-rates ranged from 16 in Brighton and Bristol to 40 in Hull; London 21; Birmingham 24; Manchester 31; Liverpool 30. In Edinburgh 17; Glasgow 20; Dublin 38.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	8 P. M.	9 P. M.	Mean.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	Duration.	Amount in inches.
Aug. 29	30.086	68	92	61	90	73	94	86	W	N	NE	13	8	8	C	R	R	—	1.20
" 30	30.208	60	65	57	94	78	88	87	NE	NE	NE	12	10	6	R	O	C	—	.44
" 31	30.225	62	71	54	82	74	82	79	C	E	SE	0	6	1	C	C	C	—	—
Sept. 1	30.228	63	70	54	87	52	72	71	W	E	S	3	7	6	O	C	C	—	—
" 2	30.160	68	78	60	89	57	84	77	SW	S	S	5	9	10	O	F	F	—	—
" 3	29.960	74	88	63	89	52	95	79	SW	SW	SW	8	9	7	F	F	C	—	—
" 4	29.820	77	89	68	85	63	95	81	SW	W	SW	6	7	6	F	F	C	—	—
Week.	30.098	67	92	54				80	SW	E	S							5.38	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 4, 1880, TO SEPTEMBER 10, 1880.

By paragraph 2, S. O. 190, A. G. O., September 7, 1880, the following changes are made to take effect October 1, 1880:—

The following-named officers are relieved from duty in the Department of the East, and will report in person to the commanding generals of the departments set opposite their respective names for assignment to duty: Assistant Surgeon D. G. CALDWELL, Department of the Platte; Assistant Surgeon J. H. PATZKI, Department of the South; Assistant Surgeon B. F. POPE, Department of Dakota; Assistant Surgeon W. J. WILSON, Department of Dakota.

Assistant Surgeon FRANK MEACHAM is relieved from duty in the Department of Texas, will proceed to Boston, Mass., and, upon arrival, report by letter to the surgeon-general.

Assistant Surgeon R. H. WHITE will report in person to the commanding general, Department of West Point, for assignment to duty at the United States Military Academy, relieving Assistant Surgeon Henry Lippincott, who, when relieved, will proceed to New York city, and, upon arrival, report by letter to the surgeon-general.

Assistant Surgeons M. K. TAYLOR and J. H. T. KING are relieved from duty in Department of Texas, will proceed to New York city, and, upon arrival, report by letter to the surgeon-general.

Assistant Surgeon W. MATTHEWS will report in person to the commanding general, Department of the Missouri, for assignment to duty.

Assistant Surgeon T. A. CUNNINGHAM is relieved from duty in Department of Dakota, will proceed to New York city, and, upon arrival, report by letter to the surgeon-general.

TAYLOR, M. K., captain and assistant surgeon. His assignment to duty at Fort Concho—paragraph 2, S. O. 161, C. S.—revoked. S. O. 176, Department of Texas, August 30, 1880.

MOSELEY, E. B., captain and assistant surgeon. The leave of absence, granted him from head-quarters, Department of the Platte, August 17, 1880, is extended two months. S. O. 187, A. G. O., September 3, 1880.

REED, W., captain and assistant surgeon. Assigned to temporary duty with United States troops at Creedmoor, Long Island. S. O. 156, Department of the East, September 6, 1880.

CARTER, W. F., first lieutenant and assistant surgeon. His assignment to duty at post of San Diego, Texas,—paragraph 2, S. O. 161, C. S.,—revoked. S. O. 176, C. S., Department of Texas.

EBERT, R. G., first lieutenant and assistant surgeon. Assigned to duty at Fort Walla Walla, W. T. S. O. 140, Department of the Columbia, August 16, 1880.

AMERICAN ACADEMY OF MEDICINE.—At a recent meeting of the council it was resolved to postpone the meeting of the Academy until Tuesday, September 28th. You are therefore respectfully notified that the fifth annual meeting of the Academy will be held in Manning Hall, Brown University, Providence, Rhode Island, on Tuesday, September 28th, at four

o'clock, P. M. The address of the president, Dr. Frederick D. Lente, of New York, will be delivered at eight P. M.

RICHARD J. DUNGLISON, A. M., M. D., Secretary.
PHILADELPHIA, September 4, 1880.

BOOKS AND PAMPHLETS RECEIVED.—On the Affections of the Middle Ear during the Early Stages of Syphilis. By F. R. Sturgis, M. D.

On Deafness, Giddiness, and Noises in the Head. By Edward Woakes, M. D. Lond. Second edition, enlarged and revised, with illustrations. Post 8vo. Philadelphia: Presley Blakiston. 1880.

Practical Lithotomy and Lithotritry; or, An Inquiry into the best Modes of removing Stone from the Bladder. By Sir Henry Thompson, F. R. C. S. Third edition, considerably enlarged. 8vo. Philadelphia: Presley Blakiston. 1880.

Transactions of the Medical Association of the State of Missouri at its Twenty-Third Annual Session. 1880.

Transactions of the Medical Association of Georgia. Thirty-First Annual Session. 1880.

Annual Announcement of St. Paul Medical College of Minnesota.

Prospectus of Hamlin University, 1880-81.

Report of the Bureau of Organization, Registration, and Statistics to the American Institute of Homœopathy, at the session held in Milwaukee, June 15, 1880.

Seventeenth Annual Report of the New York Society for the Relief of the Ruptured and Crippled. 1880.

A New School Physiology. By R. J. Dunglison, M. D. Illustrated. Philadelphia: Porter and Coates. 12mo.

Medical Education and Practice in all Parts of the World. By H. J. Hardwicke, M. D. Philadelphia: Presley Blakiston. 1880. 8vo.

Conspectus of Materia Medica and Pharmacæ Botany, comprising the Vegetable and Animal Drugs; their Physical Character, Geographical Origin, Classification, Constituents, Doses, Adulterations, etc. Table of the Tests and Solubilities of the Alkaloids appended. By L. E. Sayre, Ph. G. Detroit: George S. Davis. 1880.

American Health Primers. The Skin in Health and Disease. By L. Duncan Bulkley, M. D. Philadelphia: Presley Blakiston. 1880.

Pregnancy-Vomiting. By J. Marion Sims, M. D. (Reprint.) The Brain an Organ of the Mind. By H. Charlton Bastian, M. D., etc., etc. With one hundred and eighty-four illustrations. New York: D. Appleton & Co. 1880. Crown 8vo.

The North American Review for September. New York: D. Appleton & Co.

Ophthalmic Operations, with Remarks on After-Treatment. The Ophthalmic Use of Quinine and its Therapeutic Action. By A. Sibley Campbell, M. D. (Reprint.)

Supervision of Lunatic Hospitals. By Nathan Allen, M. D., LL. D. Boston: Tolman and White.

Suggestions on the Management of Natural Labor. By J. W. Singleton, M. D. (Reprint.)

A Practical Treatise on Tumors of the Mammary Gland; embracing their Histology, Pathology, Diagnosis, and Treatment. By Samuel W. Gross, M. D. New York: D. Appleton & Co. 1880.

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M.D.
Clinical Professor of Genito-Urinary Diseases, etc.

VIII. TREATMENT OF SYPHILIS.

GENTLEMEN, — At the close of the previous lecture it was intimated that there were some especially important reasons why the mucous patches present in Case XVI. (which I again present for your consideration) should be subjected to the application of a strong solution of the nitrate of silver. The first of these is the fact, well ascertained, that the secretions of these, as well as of all open lesions, during the entire active period of syphilis, and the blood, furnish a contagious element, that cells, which have become degraded by contact with other degraded cells in the process of infection going on in the general circulation, find their way through the walls of superficial vessels, and are exuded with the fluid secretions of all moist lesions in syphilitic subjects.

They are the *disease germs* of syphilis, and contact of these with any abraded surface on a healthy person will communicate syphilis to that person just as certainly and speedily as contact with an open initial lesion resulting from venereal contact. Disease germs from a mucous patch in the mouth or throat, suspended in the saliva, are thus readily transferred to a cup or tumbler, a spoon, a pencil, the mouth-piece of a tobacco pipe, and a great variety of other articles. These again accidentally coming in contact with an abrasion on the lips of a healthy person, and thus inevitably into practical relations with normal white blood cells, constitute that mode of communication of the disease which is termed *mediate contagion*. For this reason we look carefully for such lesions, and when found make prompt application of a solution of the nitrate of silver, of a strength of thirty to sixty grains to the ounce of distilled water, and repeat daily until they are healed.

The effect of this treatment in the present instance has not been as satisfactory as could have been desired, probably owing to the continued use of tobacco, to which the patient confesses. This leads me to remark that under such circumstances the use of tobacco is especially pernicious, not only because it delays healing of open syphilitic lesions of the mouth and throat, but that the local irritation of the mucous membrane which it occasions frequently produces such lesions at points where, independently of the tobacco habit, they would never have occurred. This patient has taken a mercurial pill (containing two grains of mass. hydrarg. and one of the exsiccated sulphate of iron) morning and night for one week, and yet we see no evidence of mercurialization either in the breath or in the gums, nor has he, apparently, experienced from its use any effect upon the digestive tract. This is the usual tolerance to the remedy given in this form and quantity. We shall now increase the medicine to three pills daily, the object being to bring the system gradually under the mercurial influence.

What we desire is to fix upon such an amount of mercurial as may be borne without irritating the digestive tract, or producing any recognizable damage to the healthy tissues or the blood, and yet such an amount as will be sufficient to effect our purpose, namely, the metamorphosis and elimination of the material which has been found forming the gland enlargements and the papules of his eruption. These manifestations, as you may see, have not changed appreciably since we began the treatment. We must not look for rapid changes. We must bear in mind the fact that the syphilitic processes, somewhat like the processes of normal growth, though less in degree, are still very deliberate. Experience has taught us that complete metamorphosis and elimination of the superfluous material encumbering the tissues in syphilis, and which has been shown to be the sole appreciable cause of every possible lesion throughout the active period of the disease, cannot be effected in less than a year in the great majority of cases, and many require a much longer time. This, in regard to the time required, is the plain statement of the case made by M. Ricord before the Clinical Society of London, and it is a statement which should be made to every patient who presents himself to you for treatment during the early active stage of syphilis. This must be the same whether he has for his initial lesion only a little insensitive nodule, without fracture of the skin, and a few innocent looking, enlarged lymphatic glands, like Case XV., or a classical open chancre in connection with a distinct papular eruption and mucous patches in his mouth, like Case XVI. This treatment or its equivalent must be conscientiously carried out, if you would secure to your patient the best results in the present and the greatest immunity from trouble in the future. We propose to watch the effect of the mercurial in these patients, and as soon as any intestinal irritation occurs, or any tenderness of the gums, or any mercurial fœtor in the breath (not common when using the amount we ordinarily prescribe), to reduce the quantity again to two or even one pill per day, gradually pushing it, however, as the irritation subsides, until some slight but well-recognized sponginess or tenderness of the gums takes place, or slight fœtor of the breath or metallic taste in the mouth occurs; then, by graduation of the dose, to keep the patient habitually a little short of this point throughout the progress of the case. No absolute rules as to the amount required to effect this can be laid down. Nor can any one preparation be relied upon for all cases. Some will be best treated with granules from one fourth to one half of the proto-iodide; others again with a solution of the bichloride; others you will find who cannot take any mercurial preparation internally, and who will require treatment by fumigations with the vapor of sublimating calomel, or by inunction of the oleate or the ung. hyd. mit.; and still another class of highly scrofulous tendencies, who cannot bear mercury in any form, and who must be treated by other agents less powerful in effecting the necessary tissue metamorphosis, such as the iodide of potassium and iodine in different forms.

A few words at this point in regard to the probable mode of action of mercury, based upon some of its known properties and effects, local and general, may not be inappropriate, especially in view of the claims which have been made as to its power as an antidote and a specific, and also as a tonic in syphilis. In any

soluble and concentrated form, as, for instance, a saturated solution of the bichloride, mercury is promptly destructive to any living tissue. The proto-chloride, on the contrary, quite insoluble in water and only very sparingly so in the digestive fluids, when locally applied is found quite free from any destructive property or local irritant action.

Administered internally the bichloride in any considerable quantity, as a grain or more, acts promptly as a corrosive poison.

The proto-chloride, on the other hand, may be given in quantity without producing any such effect.

Used externally or internally preparations of mercury are found to be active in proportion to their solubility, and whatever action the proto-chloride may produce, it is claimed by Mihalke and others to result from the transformation of a certain portion into the bichloride, probably at the expense of the chloride of sodium in the blood.

In minute quantity the bichloride may be given (as one twentieth to one twelfth of a grain) to a person in health without producing any marked local irritation, but when absorbed into the general circulation it soon exercises a stimulating effect, first upon the mucous, lymphatic, and salivary glands, producing undue functional activity, and if continued, setting up in the latter a characteristic excessive flow of the salivary secretion, which soon comes to be of an exceedingly fetid character. The breath is also tainted by the same fœtor, and this *precedes* the excessive salivary secretion, thus showing that the cause is not confined to the salivary system, but that it is in the general circulation. The cause of the fœtor (alluded to in a previous lecture) is claimed to be from the *decomposition of fat produced by the rapid fatty degeneration of cell and tissue elements throughout the organism*, induced by the characteristic influence or action of mercury.¹ This effect results not only from the excessive administration of mercury in the form of the bichloride, but from the introduction into the system of the mercurial principle in excess, whether in this form or any other form,—whether administered internally, through the digestive apparatus, or externally through the skin by inunction, or through the respiratory apparatus by inhalation of the mercurial vapor. It has been detected by chemical analyses in the blood, in the viscera, in all the secretions, in the muscles, and in the bones, in the serous membranes, and in the cartilages of persons to whom it has been administered.² Its capacity for diffusion throughout the system, therefore, and of reaching, through its material influence, every tissue and fluid of the entire organism, has been amply demonstrated. It would appear, like oxygen, to be taken up by the blood and carried throughout the system, and like it, or in a manner equivalent to it, to produce a special influence on the material with which it comes into actual contact,—a species of oxidation, which, in its feeblest action, hastens the natural evolution of living elements, and promotes their retrograde metamorphosis by its solvent property. Increasing the amount, its effect is seen in the solution and elimination of the products of new formation. Lancereaux says, "The action of mercury on the general economy is opposed

to the increase and development of new tissues;" and according to Headland and others, it "diminishes the amount of fibrin and corpuscles in the blood." In syphilis we have seen that the chief feature of the disease is the increase, through excessive proliferation, of the white or earliest form of blood corpuscles. The proportion over the red corpuscles, which are shown to be a higher form of development, is hence greatly increased. Foster, in speaking of the origin of the red blood corpuscles, says, "From these several facts it is concluded that the red corpuscles take origin from colorless nucleated corpuscles similar to, if not identical with, the ordinary white corpuscles of the blood."³ Mercury acts, then, first, in hastening the dissolution of the white corpuscles, and secondly in reducing their number. An apparent increase of the red corpuscles results. The relief to a circulation overburdened with white cells through their removal would also, and of necessity, tend to favor the normal development of red corpuscles out of the white. Such a result of the use of mercury might be attributed to a *tonic* property in the drug, as first claimed by Dr. Billing, and quoted by Headland in 1867, and more recently by Dr. Keyes of New York, in his so-called Tonic Treatment of Syphilis.⁴

Tonics, says Headland, are remedies but not poisons, and it is certainly not among the least of their recommendations that we can seldom or never do harm by their use.⁵ It is scarcely necessary to suggest that, with such an explanation of the term, the acceptance of mercury as a tonic would lead to mischievous results. The acceptance of mercury as a tonic is based upon grounds no more tenable than those which are advanced to prove its power as a specific or as an antidote; the manner of this action is accepted as a mystery, independent of any supposition even of the nature of syphilis, and equally independent of any demonstrable property which mercury is known to possess.

Given in diseases not syphilitic, but characterized by the exudation of plastic lymph,—as in inflammation of serous membranes,—mercury acts as a solvent. Its influence in preventing organization of the plastic material, as well as in breaking up and removing it, apart from any syphilitic complication, is distinctly recognized and appreciated. This it is well understood occurs through the tissue metamorphosis or fatty degeneration, especially of new cell or tissue formations, which mercury is recognized as the most efficient agent in promoting; likewise aiding in the elimination of the products of such metamorphosis through the increased action of the mucous, lymphatic, and salivary glands, which its influence is known to effect.⁶ The action of mercury upon the various systems of glands can only be explained by attributing it to its highly diffusible and peculiar irritant properties, always positively recognized when this remedy is pushed to the least degree beyond a point of healthy stimulation. In just what this stimulation consists, lacking

¹ Text-Book on Physiology, London, 1880, page 37.

² Keyes on Syphilis, Wood & Co., New York, page 117.

³ Headland, on the Action of Medicines, London, 1867, page 161.

⁴ Probably mercury acts upon the lymphatic system directly, standing in that respect next to iodine. But mercury has another action with which we are acquainted, which on the removal of such growths is most important; and that is its destructive action upon new growths. John Hunter, of old, taught "that mercury acted upon abnormal and diseased parts with much energy, while it affected but little the healthy structures." Fothergill says, "There is a great deal in this, really and actually; mercury does break down such growths, and the detritus is removed by the lymphatics." Fothergill's Principles of Therapeutics, Am. ed., 1877, page 449.

¹ Under such circumstances, according to the analyses of Dr. Wright, the blood is also materially changed; "the fibrin, albumen, and red globules are diminished in amount, and very fetid fatty matter is present in large quantity." Headland on the Action of Medicines, London, 1867, page 382.

² Headland, page 376.

the results of scientific investigation on this point, we are not able now to state. There is, however, good reason to suppose that this stimulation is due to the corrosive power of mercury, which produces rapid destruction of living tissue subjected to any soluble concentrated form of this mineral, and which produces irritation of the skin and mucous membranes in less concentrated solution,—which decreases in proportion as the strength of the solution is diminished, until it serves simply to stimulate the mucous surface in contact with it to slightly increased secretion. There is good reason, also, to suppose that the effect of the mercury absorbed into the system acts in precisely the same manner as when applied locally to parts within reach of observation, namely, to stimulate up to a certain point, and when the mercurial influence is increased beyond that point, to produce death of tissue: first of the weaker newly formed tissues, or any imperfect hastily generated tissue, or cell material; and then, if in increased strength, to destroy normal healthy cell material and tissue. We know, from an extended clinical experience, that mercury introduced into the system, in quantity so small as not to interfere in the least appreciable degree with the processes of healthy growth and nutrition, is yet capable of bringing about the death and fatty degeneration of new cell and tissue materials distributed throughout the system. We know, furthermore, that this effect is not produced through any antidotal or specific or tonic property which it possesses in its relations to syphilitic disease, but that it is produced through the power which mercury is known to possess of effecting the death of new cell and tissue formations, when brought into contact with them in its soluble forms. If, now, it can be shown that there is anything more of syphilitic disease than new cell and tissue formations,—anything more than imperfect and superfluous cell and tissue material; in other words, if there is any substance *sui generis* which constitutes the so-called syphilitic virus; then it may perhaps be claimed that mercury acts upon that substance or virus, or whatever it may prove to be, as an antidote or a specific or a tonic; but no such substance has yet been found. Until, therefore, such substance has been practically demonstrated, the cure of syphilis, through the action of mercurials, must be attributed to properties which mercurials are known to possess, acting upon materials which have been scientifically proven to exist, and which, moreover, have been shown to be sufficient, in kind and in degree, to produce all the recognized lesions and manifestations of syphilis, during the active period of the disease.

In consideration of the foregoing views and facts it may then be said that whether the presenting trouble is a well-marked initial lesion, with enlarged lymphatic glands in connection with it alone, or whether the initial lesion has disappeared, and there are only a few mucous patches in the mouth; or if there is a papular eruption alone, or an iritis, or an alopecia,—whether these are present singly or all together, in the same case,—the treatment is the same, and must be continued until all have disappeared, and the enlarged lymphatic glands in the groin, in the cervical regions, in the epitrochlear spaces, are reduced to their normal dimensions; then, and only then, unless through some idiosyncrasy tolerance of the remedy has not been secured, is it considered warrantable to discontinue the treatment.

Again I call your attention to the fact, that this

treatment is now virtually approved and recommended by all accepted authorities, as a result of clinical experience. Forms of mercury may vary, modes of introduction may differ, but the acknowledged object of treatment is to continue a mercurial impression until all traces of the disease have disappeared. The last traces of the disease are seen in the continued enlargement of the lymphatic glands,—an enlargement demonstrated to consist of the tangible cells and tissue elements, which have caused and characterized all the recognized lesions of the active stage of syphilis. These glands being restored to their original normal condition, the disease has no longer recognized existence. The whole aim of the treatment, at least the whole force of it, has been to promote tissue metamorphosis, to induce fatty degeneration and elimination of recognized obstructive material.—What becomes of the virus during this time? What evidences have we seen of the antidotal power of mercury independently of its capacity to induce tissue metamorphosis? With just as much reason might we admit a claim that its effect in producing the solution of a plastic effusion in pleurisy was from its power as an antidote to pleurisy, as that the same effect is evidence that it acts by breaking up and removing the obstructions in the tissues during syphilis, as an antidote to the syphilitic virus.

The highest type of treatment, then, during the active period of syphilis, in accordance with the material views advanced in these lectures, would be such an administration of mercury, or any other agent capable of producing or hastening tissue metamorphosis, as will act efficiently upon the unhealthy cell and tissue formations producing syphilis, and at the same time fall short of any unfavorable effect upon the healthy fluids or structures of the affected organism: this accords fully with the results obtained by clinical observation, and as cases present from time to time during the present college term, I hope to have an opportunity of demonstrating the soundness of this plan, and of giving you a practical knowledge of the characteristics of the various phases of the active period of the disease, and of the varied forms and modes of administration of remedial measures best adapted to their cure.

(To be concluded.)

Original Articles.

UTERINE MASSAGE AS A MEANS OF TREATING CERTAIN FORMS OF ENLARGEMENT OF THE WOMB.¹

BY A. REEVES JACKSON, A. M., M. D., CHICAGO, ILL.

No one can be long engaged in treating the special diseases of women without noticing the very great frequency with which enlargement of the uterus is found as one of the conditions present in patients whose symptoms point to the generative organs as the seat of disorder. In order to ascertain the exact proportion in which it occurs, I some time ago consulted a record based upon observations of 277 gynecological cases, occurring in hospital and private practice, and obtained the following result: Of this number, the uterus was enlarged in 194,—that is, 70.36 per cent. In eleven of the cases the enlargement was ascribed to the presence of uterine polypi and fibromata; in two to sarcoma; and two to carcinoma. Deducting these fif-

¹ Read before the American Gynecological Society.

teen from the entire number, we have still left 179, or 64.60 per cent., due to other causes. These were denominated, respectively, subinvolution, hypertrophy, hyperplasia, chronic metritis, and simple enlargement. I have recorded more or less completely the treatment which was pursued in these cases. There was a good deal of variety about it. It comprised almost everything that anybody has ever advised for the purpose, — the application of alterative, astringent, and caustic substances to every accessible part of the uterus, scarifications, blistering, electricity, pessaries of many patterns, abdominal supporters, the hot-water douche, etc., together with such general treatment as seemed appropriate. Under the head of "Result of Treatment," the statements are meagre; some of the cases are marked "Improved," but in regard to many of them absolutely nothing is recorded. A few of them were cured, — that is, the enlargement was diminished; for, failing by other means, I cut part of the uterus off. This is the quickest method I have found for reducing the size of the organ.

Others, as well as myself, have failed in treating these cases successfully by other means than amputation. For example, Thomas¹ says: "The prognosis in hyperplasia of the entire uterus, or of the body alone, is unfavorable with regard to complete cure." Likewise Scanzoni,² who says: "When the affection is become inveterate, and the organization of effused matters in the parenchyma is already considerably advanced, we must renounce the hope of obtaining a complete cure." Atthill, too, says: "Treatment seems utterly powerless to relieve the sufferings produced by simple hypertrophy of the uterus. It is, indeed, a nearly hopeless ailment, — one not likely to destroy life, but to render it a burden."

The late Dr. Washington L. Atlee once told me that when patients asked him the question, so frequently (and so vainly) asked by them, "How long will it take to cure me?" he was in the habit of replying, "Two years." He then explained that this response usually so discouraged the questioner that he got rid of treating an unsatisfactory disease; and if it did not have this effect, he then felt assured that he had an earnest patient, one who would be likely to aid him properly and persistently in his efforts for her relief.

Really I know of no writer who speaks hopefully of the prognosis in cases of enlarged uterus; and, for myself, I feel convinced that, excluding malignant diseases, they are, if not the most incurable, at least the most seldom cured of any with which we have to contend.

I do not expect that anything I may say or do will affect this general and just verdict; but, inasmuch as I have obtained encouraging results in some cases of this character by the use of certain manipulative processes, — pressure, friction, squeezing, — to which the term massage has been applied, I deem it proper to submit these results for your consideration.

For the purposes of this paper, I do not need to discuss the pathological questions involved in the subject of enlargement of the uterus. Indeed, these questions scarcely admit of so much debate as formerly. By almost common consent, modern investigators have abandoned the term inflammation as unsuitable for characterizing the condition under consideration; and,

although there still exists among them a difference of opinion as to what name should be substituted for the time-honored one which they have discarded, the want of agreement hardly goes beyond this. All concur in the belief that the enlargement may be referred to one or more of the following causes: —

- (1.) Prolongation of the catamenial congestion; which prolongation, by shortening the intervening period, and finally preventing the uterus from returning at all to its non-menstrual state, becomes permanent.
- (2.) Imperfect post-puerperal involution.
- (3.) The stimulus produced by the presence of neoplasms developed in the walls or cavity of the uterus.
- (4.) Distortions and displacements of the uterus.
- (5.) Perimetric inflammatory exudations.
- (6.) Insufficiency of cardiac action, and diseases of the liver and other abdominal organs.

With equal unanimity it is conceded that all of these causal conditions act in a similar manner; that all of them form an obstruction to the venous return circulation; and that, by reason of the persistent hyperæmia thus induced, there occurs a perversion of the local nutritive processes, terminating in increase of bulk, structural change, and exalted sensibility. So that, whether we name the gross fact — the enlargement — subinvolution, hypertrophy, or hyperplasia, we have essentially the same pathological condition to deal with.

In view of what I have further to say, it is important to remember that there are two stages of this chronic enlargement of the uterus.

The first is that in which the veins and sinuses of the organ are gorged with blood, which is to a certain extent stagnant. This stage is characterized by an increased growth of the connective tissue. In consequence of the turgidity and enlargement of the vessels and the presence of the freshly-formed connective tissue, the walls of the organ are soft and yielding.

After a transitional period of indefinite length, the second stage is reached. Here, owing to a contraction of the new and profuse growth of connective tissue, the blood-vessels are compressed, their calibre lessened, and the whole organ is reduced in size and becomes indurated. This, which is usually regarded as an advanced stage of the *disease*, should be considered the *cure*, — as much so as the ankylosis and cessation of activity in morbus coxarius — a cure effected by natural conservative forces, and the only one which usually does or can occur, either by natural or artificial means. After the stage of induration has been completed I believe that no appreciable diminution of size ever takes place, unless as the result of atrophic involution succeeding the menopause, or by ablation. Hence, all our curative efforts should be directed to shortening the length and lessening the degree of the first stage, — that of hyperæmia proper, — and so diminishing the amount of new and undue tissue-growth. It is, in fact, only during this stage that any of the remedies employed in the treatment of enlarged uterus are effectual; they all act by lessening vascular fullness, and just in proportion as they have power to do this are they efficient. It is only on this hypothesis that we can explain the action of ergot, hot water, local stimulants, etc.

The remedy to which I desire to call attention acts, I believe, in the same manner, and may be used in conjunction with those already mentioned. But, while I am disposed to regard it as more efficient than any

¹ Diseases of Women, 4th edition, page 296.

² Diseases of Females, page 185.

other single means with which I am acquainted, I have to confess that the class of cases in which it is applicable is limited. Not only are all cases of uterine enlargement not amenable to its curative influence, but in some it might be found positively injurious. Much judgment and tact are therefore necessary in the selection of suitable cases for its employment.

SYMPTOMS.—Enlargement of the uterus is rarely found alone. It is either preceded or followed by disorders of other organs, near or remote; disorders of structural, functional, or positional character; or, it may be, a combination of all these. Hence, the varied and multiform character of the symptoms which are found accompanying cases of this kind. Indeed, it is rather uncertain what symptoms are really dependent upon the enlargement alone; for we know that the uterus may be very greatly enlarged, provided the increase of size be unattended with abnormal change of structure or shape, and yet be wholly unproductive of discomfort. This fact we see verified constantly in the enlargement of pregnancy; and I know a woman whose case will be fully detailed further on, and who has the longest uterus I have ever seen, — the enlargement being dependent upon simple hypertrophy, — and yet a woman who is, so far as she herself can discover, perfectly well in every respect. We must therefore regard the symptoms present in any given case as caused by: (1) some change either in the structure or shape (flexion) of the uterus itself, whereby its circulation and innervation are interfered with; (2) displacement (retroversion, anteversion, prolapsus), causing it to drag or press injuriously upon neighboring organs or tissues; or (3) reflex influences upon more distant parts of the body.

Under the first of these divisions may be classed various painful sensations located in the uterus itself, menstrual derangements, leucorrhœa, sterility, dyspareunia, pruritis vulvæ, etc. Under the second we have pelvic, abdominal, dorsal, and inguinal pains, and a sensation of painful character, to which the term dragging is applied; likewise irritability of the bladder, painful or difficult defecation. These symptoms are all aggravated by the upright posture, walking, riding, or the approach of a menstrual period; and usually they are still further intensified during the first day or two of the flow. To the third class may be referred the lassitude, debility, anæmia, defective nutrition, headache, etc., which are so commonly present.

DIAGNOSIS.—I do not intend, under this head, to refer to the points of difference between hypertrophy of the uterus and other conditions which might be mistaken for it. I merely desire to indicate the kind of cases in which I would expect to find pelvic massage a suitable and useful remedy. This would be determined by the state of the parts as found on physical examination. If by such examination the uterus be found low down in the pelvis, enlarged, tender, spongy, having a doughy elasticity resembling its state during pregnancy, these conditions would show that the hyperæmic stage had not been passed, and that massage would be expedient unless contra-indicated by other circumstances. In this stage the organ is frequently found anteverted or retroverted, — more commonly the latter. When the enlargement affects the body alone, flexion is frequent, owing to top-heaviness; when the entire organ — body and cervix — are involved, flexion is more rare. These displacements and distortions do not preclude massage. But if the stage of hyperæmia

be passed, and that of induration have succeeded, the uterus — still occupying a low position, and still displaced or distorted — will be found to have lost wholly or in part its tenderness, its spongy feel, and to have become firm and hard like cartilage. It will be reduced in size also, although not to its normal bulk, and sometimes will be found almost globular in shape, like a billiard ball. When this stage has been reached, massage — and as I believe, all other remedies — will be found useless.

MODE OF PERFORMING UTERINE MASSAGE.—This may be done by three different methods: (1) through the abdominal walls; (2) through the abdominal walls and vagina; and (3) through the abdominal walls and rectum.

(1.) *Abdominal Massage.*—When the enlarged uterus can be felt sufficiently above the pubes to enable any part of its walls or fundus to be grasped between the fingers, very efficient massage may be done without invading the vagina; and this method should be preferred in all such cases, provided the vagina is small or unduly tender. The bladder being previously emptied, the patient should lie on her back upon a table or hard, unyielding mattress or lounge. The operator then, using both hands, commences by picking up and rolling between the thumb and fingers portions of the skin and other superficial tissues. The entire abdominal surface, as high as the umbilicus, is thus manipulated. The process is then repeated; the deeper tissues being this time taken up and pressed between the fingers, gradually increasing force being employed. These pinchings are alternated with rubbings of the surface with the palms of the outspread hands and the points of the fingers. After five or ten minutes have been spent in this manner, the fingers are sunk deeper into the hypogastric and ovarian regions, and the uterus — so much of it as can be reached — is brought between their tips. The organ is then alternately squeezed and relaxed and rolled between the fingers in every possible direction for twenty or thirty minutes, or until the patient becomes weary.

All the foregoing processes must be performed in the gentlest possible manner, all increase of force employed being so gradual as to be almost imperceptible.

In whatever manner the massage is employed, this preliminary manipulation of the abdominal walls is advisable, and sometimes indispensable; for in many cases the pains and discomfort complained of by patients who have enlargement of the uterus, and which are likely to be referred by them to that organ, really have their seat in the walls of the abdomen, and unless these latter become accustomed to the massage — which almost invariably lessens their sensitiveness — it would be impossible to act effectively upon the uterus beneath. I have no doubt upon this point; for in some instances several days have elapsed before the tenderness of the abdominal walls could be overcome; yet this having at last been accomplished, the uterus could be grasped and firmly pressed without causing any great amount of discomfort.

As already stated, this form of massage can only be used advantageously in the few cases in which the uterus rises considerably above the pelvic brim. Where it has not attained so great a size it cannot be reached in this manner, and the abdomino-vaginal method must be used.

(2.) *Abdomino-Vaginal Massage.*—This is performed

by passing the first and second fingers of one hand into the vagina, and placing the fingers of the other hand above the fundus uteri in the hypogastrium. A single finger in the vagina is not sufficient; it cannot be introduced so far as two, and is also not so useful for making pressure or counter-pressure.

The fingers should be passed first into the space behind the vaginal portion, which is pulled gently forward, and then permitted to return to its former position. This is repeated a half dozen or more times, when the fingers are pushed higher up, so as to reach the supra-vaginal portion of the cervix and lower part of the body. The upper part of the uterus being now steadied by the hand on the outside, it is pressed between the fingers of both hands, repeatedly, for a few seconds at a time, and then relaxed. Every portion of the organ which can be reached should be subjected to these momentary squeezings. Then the manipulations should be reversed. The intra-vaginal fingers should be drawn in front of the cervix, and the latter pushed backwards several times as far as possible short of causing pain. Then, their ends being passed into the space between the bladder and cervix, and their pulps turned against the latter, the fingers of the outside hand should be so adapted that the uterine body may again be brought between the compressing forces, when the squeezings and imparted movements are to be repeated as before. Alternating with the processes described, the uterus should be frequently elevated in the pelvis and held for a few seconds.

The entire procedure should occupy from ten to thirty minutes, according to the sensitiveness of the pelvic structures and the degree of tolerance on the part of the patient. It is better not to attempt too much at one time, or we may, by producing pain in, or aggravating tenderness of the parts, find ourselves obliged to suspend the treatment for some days, and thereby lose time.

(3.) *Abdomino-Rectal Massage.*—This is, unfortunately, the least available of all the forms of uterine manipulation. I say unfortunately, because, owing to the greater ease with which the uterine body can be reached through the rectum than by the vagina, pressure movements by this method would be much more useful. But here, too, as in the vagina, one finger does not present sufficient surface, and the introduction of two fingers causes too much pain. Indeed, the daily introduction of a single finger into the rectum is likely to be followed by irritability of the part. Hence, this form of massage, if expedient at all,—which I greatly doubt,—must be confined to a small class of exceptional cases, in which the vagina is so small or so tender as to make it entirely unavailable for the purpose.

History and Modus Operandi.—Massage is not a new remedy; in some of its forms it is as old as surgery itself. But it had well-nigh sunk into utter obscurity, when, a few years since, its use was revived by Dr. Mezger, of Amsterdam, who soon became renowned for his success with it in the treatment of various chronic conditions of the muscles, bones, and joints. His example was followed by some of the Continental surgeons, and in a short time the remedy was receiving all the attention it deserved,—and possibly more. But just as persons sometimes are made to suffer through the over-kind offices of their friends, so a remedy, though possessing real merit, is occasionally decryd or allowed to fall into desuetude, because it does

not fulfill the extravagant expectations which have been raised by enthusiastic and injudicious experimenters. This has been the case to some degree with massage. Many persons who had given it a trial, and who have failed to achieve by its use the brilliant results of Mezger in Europe, in a certain class of cases, or of Mitchell in our own country, in another class, seem unwilling to accord it any virtues whatever. These objectors forget, or overlook, the fact, that in the case of the persons named the remedy was only one of several that were conjointly employed to produce the curative effect; and the other equally important fact, that they both possess a degree of personal so-called magnetism which does not fall to the lot of many men, and by which they are enabled to command all those psychical aids on the part of their patients which are sometimes quite as essential in the cure of disease as are remedies of a more material character. But, after due allowance has been made for these facts, there can be no reasonable doubt of the efficacy of massage as a remedy in certain conditions. We know that a mass of blood effused beneath the skin as the result of external violence may be made to disperse by means of kneading and pressure. The same may be done with infiltrations of serum and semi-organized new formations. In each of these cases the process is the same. The exudations are resorbed by permeable lymphatics, which are active and capable of performing this function just in proportion to the energy of the circulation in the neighboring blood-vessels, especially the small veins. In hypertrophy of the uterus—at least prior to the stage of induration—there is an undue supply of blood to the organ, and owing to some impediment to its return it remains there in larger than normal quantity; this is equally the cause of the enlargement, whether it act by producing increase of one textural element or another. Hence, any remedy, to be efficient, must either remove the impediment to the out-flow of blood from the uterus, or must force it out, notwithstanding the impediment. The indications are to lessen the undue and partially stagnant supply of blood; to overcome the stasis; to promote resorption of the excess of tissue. The habitual hyperæmia—the foundation fact—must be removed, and its recurrence prevented. What can be more likely to effect these objects than the movements, frictions, pressures, and kneadings which are comprised in the term massage? And experience has not failed to justify the expectations which so reasonably come from a consideration of the action of this method of treatment.

In order to illustrate the effect of uterine massage, I have selected a few cases in which its beneficial agency has seemed most marked. In several others the improvement has not been either so great or so rapid; while, in still others, where the uterus was hard as well as enlarged, no perceptible change occurred.

CASE I. Anna E., a German woman, thirty-seven years of age, had been married seventeen years. She had four children, the youngest being six years old. She had in addition two abortions, both at about three months. She dated the commencement of her illness back to the first of these,—about three years ago. After its occurrence she was obliged to quit her bed on the second day and undertake a journey, which lasted several days, on cars and stage. For seven or eight weeks she had a continuous bloody discharge, accompanied by a sense of weight and dragging in the pelvis, backache, and profuse leucorrhœa. Menstrua-

tion became abundant, and recurred at shortened intervals. However, under rest and treatment, the symptoms improved somewhat, and at the end of a year she again became pregnant, had another abortion, and this was followed by an exacerbation of all the former troubles. I first saw her seven months after the date of the last miscarriage, during a very profuse menstrual flow, which lasted ten days. When it ceased I made careful investigation of the pelvic organs. I found the uterus large, soft, retroverted, and tender, — the tenderness being especially marked at the lower portion. The vaginal walls were turgid, relaxed, and corrugated, the anterior being easily forced through the vulva by the voluntary efforts of the patient. A laceration of the left side of the os uteri extended to the vaginal junction, permitting a slight degree of eversion of the cervical lining membrane. A sound indicated a depth of three and a half inches. The uterus was readily restored to its normal shape and position, which, however, were only maintained while the organ was held by the instrument. I do not remember to have ever seen such soft and flabby uterine walls; and I felt obliged to use the sound with the utmost care, lest I might find its end going through the fundus.

I gave ergot and hot-water injections. Subsequently she wore large cotton pessaries saturated with solution of alum in glycerine. This latter device gave her much relief. She also took quinine and strychnia. At the end of six weeks there appeared to be a slight reduction in the size of the uterus, — perhaps a quarter of an inch in the depth of the cavity. The tenderness seemed likewise lessened, although still the subject of much complaint.

I now determined to try the effect of massage, and omit all other local means. It was commenced October 18th, and used daily, — at first fifteen minutes at a time, and gradually increased to forty-five minutes. On December 1st the uterus measured two and seven eighths inches, was firm in texture, and so free from tenderness that it could be moved in any direction without discomfort.

The vesicocele was so annoying, however, that I subsequently retrenched the anterior vaginal wall for its relief.

CASE II. Mrs. H., thirty-two years old, consulted me in the spring of 1879. She had first menstruated at fourteen, had become regular at once, and the function had never shown any peculiarity or abnormal condition. She had been married six years, and had never been pregnant. Two years after marriage she noticed a leucorrhœal discharge, found herself getting weak and tiring easily, and intercourse became painful. A physician who examined her at that time found the uterus enlarged, and expressed the fear that it might be the site of a fibrous tumor.

At the time of my consultation with the patient she was pale, but quite stout from abundance of adipose tissue. She complained of headache, constipation, leucorrhœa, and pelvic pain and pressure. I found the uterus greatly enlarged, and so regular in outline that I at once considered the patient pregnant, although no positive signs of that condition were discovered. The fundus could be felt at a point one inch above the navel, and the organ was inclined to the left side. I did not advise any treatment beyond the use of an abdominal supporter, feeling quite sure that time would demonstrate the existence of pregnancy, notwithstanding the assurance of the patient — a very intelligent

lady — that my suspicions were groundless, and that she had menstruated regularly, although scantily.

At the expiration of six weeks, finding no increase in size or other change in the condition of the uterus, and having satisfied myself that the patient had menstruated twice, I ventured to introduce a sound, which, passing without difficulty and in a direction somewhat to the left of the median line, marked a depth of five and a half inches.

The organ, as at the former examination, was soft, smooth, and regular in outline, and tender in every part. The singular and puzzling feature of the case was the entire want of evident cause for such unusually great enlargement.

In the way of treatment, I tried hot vaginal injections, ergot, and weekly scarifications of the cervix. The ergot had to be abandoned after a fortnight, on account of its producing headache and disorder of the stomach, both of which ceased on the discontinuance of the drug. I replaced it by the use of massage. This was first used April 3d, and continued daily until the 18th, when a menstrual period set in and lasted three days, interrupting the treatment. The manipulations, although performed in the gentlest manner, were at first attended by so much pain that they could only be used for four or five minutes, but, after nine or ten days, they could be continued to fifteen and twenty minutes.

Massage was resumed on the 23d, and from this time onward was the only remedy used. It was continued daily, with only three or four interruptions, until May 16th, when menstruation again occurred. The period ceased after three days, and on the 20th I introduced a sound which entered to the depth of four and a quarter inches. The fundus uteri was now about one and a half inches below the umbilicus. The subsequent improvement was neither so great nor so rapid. During the following two months the uterus continued to diminish slowly, but after that time, during the subsequent month, I could not feel sure that any further change took place. On August 8th, the sound entered nearly four inches; and the fundus could still be felt two inches above the symphysis pubis.

Now, notwithstanding the presence of this enlargement, the health of the patient is perfectly good; menstruation is normal; she has no leucorrhœa, no pelvic pain or tenderness, and no vesical or rectal disturbance.

CASE III. L. M., forty-one years of age, was an out-patient of the Woman's Hospital of the State of Illinois. Menstruation first appeared at fourteen, and became regular six months thereafter. The discharge was always attended with pain, which commenced two or three days prior to the appearance of the flow, and continued until the latter was fully established. She was married at twenty-two, had one child eighteen months afterwards, and had been a widow fifteen years.

Three years before consultation she had an attack of sickness resulting from the introduction of a sponge tent for the purpose of inducing an abortion; the patient supposing at the time that she was unlawfully pregnant. After an illness of more than two months' duration menstruation became more profuse, and she had occasional attacks of metrorrhagia. She had leucorrhœa of brownish color, sometimes fetid.

I found her pale, feeble, and exceedingly nervous. The uterus was large, tender, and drawn to the left side. Its normal motility was much lessened. The

os uteri was felt low down, in the pelvis, while the fundus reached as high as the level of the upper edge of the pubes. It seemed enlarged fully one third above normal size. By the rectum the enlargement was found to affect especially the posterior wall, giving the impression of the presence of an intra-mural fibroma, which I concluded she had, although I did not verify this opinion by the introduction of the sound, the use of which I refrained from because of the great tenderness of the parts.

After some preliminary measures, I advised the use of massage, the performance of which was intrusted to the resident physician. From the latter I received occasional reports of the progress of the case, but had no opportunity of examining the patient personally for nearly seven months. All treatment had then been suspended for more than two months. Massage had been used three to four times a week for nearly the whole time.

I found the uterus greatly reduced in size and of normal shape; likewise the ridge of cellular inflammatory exudation had wholly disappeared. Menstruation had become regular and of proper amount. The sound, which was now introduced without causing pain, showed the length of the uterine cavity to be three inches.

As already intimated, the foregoing cases have been selected for the purpose of presenting the *best* results which have been obtained by pelvic massage in certain cases. They do not represent the average of success which may be expected, — an average which, from what we know of the nature of the chronic parenchymatous diseases of the uterus, must always be low.

There are a good many cases of enlarged womb in which I would not expect any treatment to be beneficial, so far as regards diminution of size. The class containing the largest number of these, namely, those in which the stage of induration has been reached, has been already referred to. But there is another class, also very large, in which the hyperplasia depends upon some local condition outside of the uterus itself; for example, inflammatory exudations in the pelvic cellular tissue. The existence of these is always to be suspected when the uterus is found drawn to one or other side (latero-version or latero-flexion). In these cases the broad ligament of that side is likely to be shortened, thickened, and tender, — conditions much more readily detected by rectal than by vaginal examination. Hence, the rectal touch should never be omitted in the investigation of these cases.

Inasmuch as the uterus depends, both for its blood supply and depletion, upon vessels which pass through the pelvic cellular tissue, it is obvious that any obstruction in the latter must result in congestion of the former. Therefore, when spots of undue tenderness, or indurated bands drawing or fixing the uterus in malposition, or ridge-like deposits of inelastic tissue, are found in the immediate vicinity of the uterus, and the latter is at the same time enlarged and tender, we may feel quite confident that the excess of uterine bulk will remain so long as the surrounding hardness continues; and that this latter must be removed by appropriate means before any material improvement can be effected in the size of the uterus.

— Gaillard's *Journal* for August announces the death of three American physicians by suicide.

RECENT PROGRESS IN THERAPEUTICS.¹

BY ROBERT AMORY, M. D., HARV.

THE ANTIFEBRILE EFFECTS OF COLD ENEMATA.¹

THE following conclusions from fifty observations in Professor Manassein's clinical wards are deduced.

Cold clysters form a practical means of reducing temperature, the influence of which continues for a considerable time. After clysters at 10° C. the temperature scarcely attains its former height in the axilla for from thirty to forty minutes, in the hypogastrium after an hour, and in the rectum after an hour and a half. With clysters at 5° C. the cooling in the axilla lasts for forty or fifty minutes, but in the hypogastrium and rectum it lasts a longer time than when water at 10° C. is used; so that the prior high temperature has never been observed to be regained, within the interval of two to two and a half hours. The clysters at 10° C. are well borne in all cases, sometimes leaving behind them a pleasant sense of coolness extending over the whole body. Those at 5° C. are by some just as well borne, but in others they induce unpleasant sensations in the abdomen. In recurrent fever even shivering may be produced. The depression of temperature is more considerable in cases of fever than in non-febrile affections or in health. Not only is the temperature diminished, but so also is the rate of the pulse, and the number of respirations, to a slight extent. The greatest reduction of temperature takes place in the rectum, next in the hypogastrium, and least in the axilla. Cold clysters remove the accumulations of faecal masses which so frequently occur in fevers, as also intestinal gases which cause meteorism. Thus the movements of the diaphragm are less constrained. Stools follow the use of the clysters at different times in different individuals, the time varying from a quarter of a minute to two minutes and a half. There can be no doubt that when a clyster is also indicated in non-febrile cases, the cold clyster should be preferred to the warm in all those cases in which, besides emptying the intestine, it is desired to produce a tonic effect on the canal, or to diminish the amount of blood in the pelvic organs. The reporter is led by his own experience to draw a different conclusion. It is highly probable that the use of cold enemata induces, if it does not exaggerate, a catarrhal condition of the rectal mucous membrane, and the reaction after cold enemata induces congestion, whilst the reaction from hot enemata induces local anæmia.

CARBOLIC ACID.

Binnendik,² recounting the toxicological effects of this therapeutic agent, concludes that carbolic acid is a poison, acting directly upon the cerebro-spinal centres as a primary excitant, and secondarily as a paralyzant. Though this substance does not appear to alter the condition of the blood in circulation, yet sometimes hæmoglobin may be detected in the urine after the poisonous effects have been produced.

The toxic effects of the drug are developed very soon after its administration, but will disappear before the whole dose has been eliminated from the system; in one case complete elimination was observed by him

¹ Continued from page 271. We are pleased to acknowledge the receipt of Professor Rutherford's complete work on hepatic stimulants referred to in the first part of this report. This memoir is published by Black at Edinburgh, and is entitled, *Action of Drugs on Secretion of Bile*.

² St. Petersburg. Med. Woch., June 14, 1879. Practitioner, September, 1879.

³ Le Progrès Médical, October 4, 1879.

to have occurred twelve hours after its ingestion. Apparently carbolic acid is converted in the system into complex sulphuric ethers of phenol, hydroquinon, and pyrocatechin, which are not so poisonous as carbolic acid. When mixed with glycerin and given to rabbits the poisonous effects are diminished, though the reasons for this are not clear.

ON ALKALINE TREATMENT IN GLYCOSURIA.

Dr. Coignard¹ reports the results of some experiments he made which consisted of irrigation of radishes with alkaline waters, as also the effects of planting other specimens in a soil saturated with an alkali. He refers also to some experiments conducted by Dr. Martin-Damourette, in 1854. In these some plants were watered with ammoniacal urine, and others were sprinkled with wet wood ashes. In all the experiments, with the exception of a few in which the alkaline irrigant was very feeble, the amount of glucose obtained from plants watered with the alkaline irrigation was very much diminished, if this amount was compared with that obtained from plants exposed to rain-water irrigation, but otherwise subjected to similar treatment of air, sunlight, and soil. Comparing the effects on vegetable life with the effects of an alkaline treatment of patients afflicted with diabetes mellitus, the results are rather striking. Some of these patients were restricted in their diet to starch foods, and others to food without starch; yet in all these cases the amount of glucose obtained from the urine steadily diminished, and, except when the alkaline treatment was pushed too far, the patients improved in general health, and their desire for drink was very much reduced.

Mr. Cornillon,² of Vichy, in commenting upon the treatment of glycosuria, has written quite an elaborate essay based upon his observation of patients resident at the Vichy springs. The result of his observations may be stated in brief as follows: In simple glycosuria, uncomplicated with pulmonary disease, the treatment by Vichy as well as by other alkaline waters, especially when combined with alkaline baths, will reduce very materially the amount of glucose passed in the urine, and the constitutional symptoms of emaciation, thirst, dry skin, etc., will be ameliorated. The improvement begins on the fourth or fifth day, and in his longest and most severe case was consummated on the thirtieth day from the commencement of the alkaline treatment. The restless nights observed in these diabetic patients were replaced by calm and natural sleep. The urine, which before this treatment was acid and pale, became alkaline, and presented a darker shade of color. The peculiar aromatic sweet odor of the urine and sexual impotency slowly but generally disappeared, but not for months, or in some few cases years, after the institution of the alkaline treatment. But in those cases where the diabetes is coincident with phthisical disease, though the symptoms of diabetes in the urine may disappear, yet the pulmonary disease itself may progress to a fatal issue; M. Cornillon believes that even in these cases the alkaline treatment is not contra-indicated, for extension of the active pulmonary disease does not appear to follow its use, unless it had previously existed in a very severe form. He discusses the important question as to whether the patients are so much improved by the alkaline treatment that the

amelioration may be called permanent. Many of his recorded cases would seem to indicate that the cure is permanent, yet as the result of his experience he would advise the continuance of alkaline treatment long after the patients have left the spring apparently free from active symptoms of glycosuria. In this connection the reporter calls to his remembrance the history of two cases of glycosuria occurring in his practice, which were kept under a prolonged treatment of Carlsbad water and tincture of the sesquichloride of iron, with a restriction from non-starchy foods. The treatment was begun three years ago, and had been interrupted for the past eighteen months. At the present time, though the restrictive diet and medicinal treatment is not in force, yet there has been no reappearance of glycosuria nor of the constitutional symptoms incident to diabetes. These symptoms were so marked at the outset of the treatment as to lead directly to the diagnosis before the urine was examined. In one of these cases the urine had the high specific gravity of 1042, but is now reduced to 1026.

BENZOATE OF SODA.

M. J. Bex, in the *Revue des Sciences Médicales*, Juillet, 1880, discusses the action of this remedy from analysis of the papers mentioned below.³

The use of this remedy was instituted by Schueler, of Greifswald, who performed tracheotomy on animals, and then projected through this wound either tuberculous matters or organic germs cultivated after the method of Klebs. All these animals became emaciated and died; after death there was found a generalized military tuberculosis in their lungs. Yet those animals who were treated similarly and afterwards subjected to the use of benzoated soda inhalations did not die. Schueler used a dose varying from fifty centigrammes to one gramme for each kilogramme of the animal's weight. He suggested the use of this remedy in men having phthisis, and advised its continuance for several months. At Innsbruck the inhalation of this remedy was practiced on fifteen tuberculous patients in the strength of fifty grammes in a five per cent. aqueous solution, or in one thousand grammes of water. Three of these cases were almost moribund; but at the close of a few weeks they were discharged from the hospital cured, as also were the remaining twelve patients.

We have the authority of Klebs for the statement that the use of this agent by inhalations, or applied topically and combined with its internal administration in doses of twenty or thirty grammes (five and a half to seven drachms), always causes a permanent abatement of the fever in phthisis, a marked increase in the weight of these patients, and a cessation of the catarrhal symptoms; but during the session of the society at Prague this view was vigorously opposed by Halla.

At Berlin the therapeutical effects of this drug were brought into discussion, resulting from the reading of a critical essay by Guttman. He followed the same method of experimentation practiced by Rokitsansky, but arrived at results directly contrary to those of this latter observer, namely, that the benzoate of soda, in

³ Zur Behandlung der Tuberculose, Max Schueler, in Berliner klinische Wochenschrift, November 10, 1879. Ueber Inhalationen von benzoesaurem Natron bei Lungenschwindsucht, Paul Guttman, Soc. med. Berlin, November 5, 1879. Discussion of said paper by Fraenkel, Senator, Wolff, Steinauer, Fritsche, Baginsky, Waldenburg, Bardeleben, idem, Nos. 49 and 51, December 8 and 22, 1879. Ueber Anwendung und Wirkung des Natrums benzoicum bei Phthisie, Wenzel, Ibidem, December 8, 1879. Discussion à la Société de Prague, Klebs, Halla, February 9, 1880.

¹ Journal de Thérapeutique, No. 21, 1879.

² Le Progrès Médical, December 20 and 27, 1879, and January 3, 1880.

stead of curing pulmonary phthisis, has no effect upon any of the symptoms, functional or physical, of the disease, and this opinion was verified at the autopsy of nine patients who had undergone treatment with this drug. While it was true that a temporary remission of cough and expectoration followed the inhalation, it is likewise true that a similar improvement follows the inhalation of simple aqueous vapor. The inconveniences of this medication are not great, they being confined chiefly to slight attacks of nausea and vomiting, which appear to be excited by the fatiguing effect of protrusion of the tongue during inhalation, though in two of the patients an hæmoptysis occurred, whilst there had been for several years prior to this treatment no such symptom.

During the discussion which followed the reading of Guttman's communication, it would appear from the clinical experiences of Guttman, Senator, Waldenburg, Fritsche, and M. Wolff that about two hundred phthisical patients were subjected to treatment by this drug; without considering the details of these cases it seems fair to conclude that the therapeutical conclusions of Guttman are well supported.

The topical use of this agent in tuberculous ulcerations of the throat and larynx is apparently of no benefit, judged by B. Fraenkel's experience. Again, on the other hand, following the indications of the experiments of Graham Brown in Kleb's laboratory there is reason to believe that benzoate of soda has an immediate and specific effect against diphtheria and tuberculosis. Letzerich employed this drug in diphtheria of twenty-four children and three adults. He lost only one case, that of an infant not fully recovered from a previous attack of croup; eight of his cases were before the commencement of this treatment seriously affected by very severe and general constitutional disturbances, such as violent fever, delirium, constipation, and retention of urine. For the period of a year he was in the habit of prescribing five grammes (one drachm) of the benzoate in a potion of ninety grammes (two and three quarter ounces) containing equal quantities (forty grammes) of peppermint water and distilled water, with ten grammes of syrup of bitter orange. To infants he gave half a teaspoonful every hour, to children of three to seven years of age seven or eight grammes, over seven years of age ten to fifteen grammes, always given throughout the day; finally, to adults he gave fifteen to twenty-five grammes. Never, even among nursing children, had he observed any accident, nor was there any caustic action following its topical application to spots on the throat. Hoffmann states that he has successfully treated by this drug twelve diphtheritic sore throats (diphtheria?), eight of this number having been children, and he has never observed any untoward accident following its use. In the gastro-intestinal catarrh of nursing children, Letzerich was astonished with its utility. In vesical catarrh Letzerich, Badt, and Cahen have had three cases advantageously treated. In a case of scarlatinal uræmia and in two cases of nephritis, Hoffmann had seen the albuminuria rapidly disappear after treatment of three doses daily of five grammes of this benzoate of soda. Apparently this drug has no beneficial effect in articular rheumatism.

Guändiger,¹ after an experience with seventeen children who had been treated by him for diphtheria, on the same plan as that suggested by Letzerich with

benzoate of soda, reports that eight of these patients died, and that the false membranes disappeared no more quickly than when the usual ordinary treatment was resorted to, nor did the use of the drug administered topically or internally prevent the extension of the diphtheritic membrane. Gnädiger prefers the ordinary treatment of ice, chlorate of potassa, and tonics, which seem in the Vienna hospitals to be always the returning point of those physicians who have failed to see the benefits of any novel treatment.

SALICYLIC ACID IN BROMIDIC ACNE.

William Prowse² suggests for bromine acne that "a solution of one grain to the ounce of water, applied frequently, and, when possible, constantly, by means of lint and oiled silk, is a most efficient and certain remedy in the worst cases."

Reports of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

THE society commenced its fifth annual meeting September 1st, at ten o'clock, in the hall of the Cincinnati Law School. Dr. J. Marion Sims, of New York, presided, and the following members of the association were present: Dr. F. Barker, of New York; Dr. R. Battey, of Rome, Ga.; Dr. S. C. Busey, of Washington, D. C.; Dr. J. R. Chadwick, of Boston; Dr. A. Dunlap, of Springfield, O.; Dr. G. J. Engelmann, of St. Louis, Mo.; Dr. W. F. Howard, of Baltimore, Md.; Dr. T. A. Reamy, of Cincinnati; Dr. J. C. Reeve, of Dayton; Dr. H. P. C. Wilson, of Baltimore; Dr. W. H. Byford, of Chicago; Dr. H. F. Campbell, of Augusta, Ga.; Dr. T. M. Drysdale, of Philadelphia; Dr. G. H. Lyman, of Boston; Dr. T. Parvin, of Indianapolis; Dr. A. R. Jackson, of Chicago; Dr. R. S. Sutton, of Pittsburg, Pa.; and Dr. J. W. Underhill, of Cincinnati. The invited guests present were Dr. A. F. Erich, of St. Louis, Mo.; Dr. Charles Shepard, of Grand Rapids, Mich.; Dr. W. W. Henderson, of Covington, Ky.; and the following gentlemen from Cincinnati: Drs. W. W. Dawson, W. H. Mussey, Thos. Wood, J. H. Tate, W. H. Taylor, J. Trush, C. D. Palmer, John Murphy, David Judkins, Jas. T. Whittaker, A. J. Miles, Wm. Carson, A. E. Dandridge, C. O. Wright, W. T. Brown, A. T. Key, P. S. Conner, and G. Bruehl.

Dr. T. A. Reamy delivered the address of welcome as follows:—

Fellows of the American Gynæcological Society.—Another year is past; its work is done. From your various fields of labor you have come to participate in the fifth anniversary of our organization. This society was founded for the promotion of all that relates to the diseases of women and obstetrics. Some of the founders and honorary Fellows have passed through the "tragedy of life," and they rest. They did well their work. Their deeds are our heritage. No one can be admitted to your ranks who has not already distinguished himself, or at least by industry and capacity given promise of good special work in the future. There are those among you who have achieved greatness by genius and learning, whose names are honored, and whose opinions are respected wherever gynæcology or obstetrics is studied or practiced. There are those in my presence who deserve to have their

¹ Wien. med. Blatt., page 25, 1879.

² British Medical Journal and New Remedies, September, 1880.

names spoken softly and in accents of gratitude and praise wherever a woman can describe her suffering and speak of deliverance from its pangs. The four volumes of published Transactions which have already received the sanction of the profession, home and foreign, are an earnest of what may be expected of the society in the future. They must continue to be a record of experience and opinions from those who, having special opportunities, can best promote and advance this department. Much work is yet to be done before we can lay claim to the standard of a science. Many questions of pathology and treatment are still unsettled. Those engaged in the prosecution of this work have the stimulus of a success which, during the past thirty years, has been almost marvelous. They are likewise encouraged by the sympathy and cooperation of most of the better men in the profession. It is true there are still to be found a few in prominent positions who oppose all that is new. They stand before a specialist in holy horror and deprecation, their own knowledge too superficial to be special. More from narrow-mindedness than from envy or malice, perhaps—more through ignorance than from a genuine spirit of conservatism, which they blindly imagine themselves to possess, they croak and condemn. But the opposition of such is far more to be courted than their approval. But time admonishes that I close by discharging the pleasant duty assigned me. Cincinnati feels honored in having been selected as your place of meeting; the profession here feels honored. In the name of Cincinnati, and in the name of the whole medical profession of Cincinnati and vicinity, I extend to you and to your invited guests the grasp of our hands, the friendship of our hearts, the hospitalities of our homes. Welcome!

The first paper read was that of Dr. Robert Battey, of Rome, Ga., on the subject, What is the Proper Field for Battey's Operation? He said that in the application of "Battey's operation" there was no question of choice, but only of necessity. It was not a matter of expediency to expel the ovaries, but a matter of strict duty, where other remedies fail. The case must be deemed incurable, it must endanger life, and a cure must be reasonably expected before the operation is at all justifiable. He had foreseen the difficulties of its application and its variable conditions many years ago. He enumerated briefly when the operation is absolutely necessary, which is in case of a complete occlusion of the vaginal canal in menstremania, ovarian epilepsy, ovarian hernia, Cæsarean section, and a few other cases. He said it was idle to talk about sending a patient to the Virginia Springs, or treating her with violent medicines whenever there are successive nervous perturbations, or reason or life are endangered. There is absolutely no cure in such cases by any other resources of the art. He insisted that it was better to sacrifice these pernicious organs than endanger life. He had treated fifteen cases, and was not convinced of any wrong he had done, though two of these had been fatal.

Dr. Battey's paper provoked considerable discussion. Dr. Fordyce Barker related three cases where Battey's operation had been performed with success. Dr. H. P. C. Wilson, of Baltimore, said that he had now a case in hand, where he intended extirpating the ovaries, and that he had lost one case because of his neglect to employ the operation. Dr. W. H. Byford, of Chicago, spoke of the evil effects caused by the loss of

the ovaries. The patient is subject to hæmorrhages and general depression. He expressed his belief, however, in Battey's operation, and had himself inadvertently performed it in removing a hernial tumor twenty-five years ago. Dr. A. Dunlap, of Springfield, O., thought it ought to be the *dernier resort* in extreme cases, and never had a case where the operation was necessary. In conclusion, Dr. J. Marion Sims, of New York, gave a brief outline of his experience in the matter, stating that Spencer Wells had used the operation successfully for the first time in England in 1878; that Dr. Alex. Simpson had performed it twice, and Dr. Austin Tait as many as twenty-eight times in one year. He had eleven special cases in eleven months, and out of the whole number of twenty-eight only two died. He pronounced Dr. Battey's operation as perfectly legitimate in some urgent cases, and had recently performed four operations himself. One of his patients had died, though not from the effects of the operation, and one had not been cured, but had developed worse symptoms than before. He urged that the main point was to discriminate in its use. Dr. Thomas Wood stated that he had never practiced Battey's operation. He said that the destruction of the ovaries makes social life very unpleasant, and gave a remarkable instance of a woman, whose one ovary had been destroyed, and who, nevertheless, bore six children afterward, three of each sex. He seemed to incline to the opinion that life was more pleasant with the ovaries than without them.

The next paper read was by Dr. G. J. Engelmann, of St. Louis, on Two Cases of Anterior Displacement of the Ovary, Simulating Internal Inguinal Hernia.

A luncheon party at the residence of Dr. T. A. Reamy filled the interval between the morning and afternoon sessions of the society. The invitations were confined to the members of this society, and those who, by vote of the society, have been made its guests, and all members of the Obstetrical Society of Cincinnati, of which Dr. Reamy, their host, is President. The distinguished party sat down, about fifty in number.

In the afternoon session Dr. H. P. C. Wilson opened by reading a paper on A Case of Ovariectomy complicated with Pregnancy. Out of twenty-nine cases he had saved twenty-four mothers and twenty children. One tumor had been extirpated which weighed eighty-one pounds. One mother was in a six months' gestation, and after the surgical operation had no difficulty and was delivered safely. In the subsequent discussion Dr. Dunlap told of three cases which came under his personal experience, in one of which he did not know that the patient was pregnant. He was in favor of having an abortion performed previous to the operation in extreme cases. The life of the mother was to be regarded much more than that of an undeveloped child. He expressed himself as opposed to the smaller incisions of ovariectomy. Dr. Chadwick, of Boston, presented another view of the subject, urging that in many cases the operation was not necessary at all. He had two cases where the tumor was as large as the fetal head, and had simply removed it to one side, thus effecting delivery without interfering with the tumor at all. Three weeks ago he had operated on a tumor which measured six feet and weighed one hundred and forty pounds. He was not in favor of operating before the puerperal period, unless in cases of extreme necessity. Dr. Battey spoke of a

case where the woman had ninety pounds of tumor and only seventy pounds of flesh. He tapped over six gallons of chocolate fluid from her at one time, and, though she was delivered safely, she died a short time after. He mentioned a few more cases where abortion was produced, in consequence of which the patient died. Dr. Byford explained his method to be the tapping of the patient two or three times before gestation. He characterized abortion as a very malicious practice, tending to the death of both child and mother. He knew of one case where the tumor was not removed until after two happy deliveries of the mother.

Dr. Sims stated that he had had two cases, in one of which he was not aware of the pregnancy of the patient, and yet she entirely recovered. He said that sometimes the tumor bursts and kills the patient, and sometimes bursts to her cure. He would not interfere with tumors when they were small, but when they grow larger they must be operated upon. Dr. W. W. Dawson, of Cincinnati, complained that the fashionable incision was a small one, but he thought that the incision should be large enough to remove all adhesions, and all particles of blood and other matter.

Dr. A. Reeves Jackson, of Chicago, read a paper on Uterine Massage as a Means of Treating Certain Forms of Enlargement. He explained the causes of enlargement, and reviewed the different methods of applying massage. Dr. H. F. Campbell, of Georgia, explained that quinine was the best remedy for such enlargement of the uterus. Dr. T. A. Reamy thought that massage would not contract, but enlarge, the parts. Dr. Sims, in conclusion of the afternoon exercises, congratulated all on the success of the meeting. Dr. J. W. Roseburgh, of Canada, was voted in as a member of the society by acclamation. A number of female physicians were present in the afternoon, listening attentively to the papers read.

In the evening the members of the society sat down to a banquet at the Grand Hotel, in company with about one hundred regular physicians of Cincinnati and vicinity. The banquet was preceded by a gathering in the parlors of the hotel, in the nature of a reception. Dr. J. Marion Sims sat at the head of the table. At the request of the association there was no formal programme of toasts. This courtesy was tendered by the local regular profession, acting jointly with the Obstetrical Society.

The second day's session of the American Gynecological Society opened September 2d with an increased attendance of the medical profession. There were nearly two hundred present, who listened with unabated interest to the papers read. The first essay delivered was that of Dr. R. S. Sutton, of Pittsburg, Pa., on A Case of Cataleptic Convulsions Cured by Trachelorrhaphy, which we give in full:—

Mrs. C., aged thirty-eight years, had borne four children; never miscarried. Her last labor occurred August 19, 1872. None of her labors could be termed preternatural, although her disease began, as will be shown, after a laceration of the cervix uteri.

Prior to marriage she had been a vigorous girl, but had suffered from menorrhagia. After marriage she soon became pregnant, and arrived at full term on September 23, 1867. Her pains came on about six P. M. Seven hours afterward she was delivered with forceps, and sustained a partial laceration of the perinæum. Her lying-in period was painful and protracted; she had considerable soreness in the pelvic and lower ab-

dominal regions, which persisted long after she left her bed. Her second labor occurred fourteen months later, in November, 1868. The labor was "rapid and easy," and she had a good getting up. She nursed neither of the children. Eight months after this labor, while menstruating, she took an evening drive. After her return she was seized with a convulsion for the first time.

During the following November, about a year from the date of her second labor, she again became pregnant. An occasional convulsion occurred until after the fourth month of utero-gestation, when they became very frequent and were, the patient affirms, provoked by the movements of the fetus. Finally, on August 4, 1870, she was confined at full term. Her labor was "easy and rapid," but she had several convulsions. On August 19, 1872, the time of her fourth and last labor arrived. This labor was "easy and rapid," but several convulsions occurred. A year after this labor she first consulted me. The convulsions were cataleptic, she wore an anxious expression of countenance and she had well marked anæmia.

An examination revealed a slight laceration of the perinæum, the uterus retroverted and low in the pelvis.

By means of the speculum the cervix was found congested and eroded. From the cervical canal came an abundant discharge. Her rectum was congested, and a slight anal fissure was observed. She complained of backache, irritable bladder, and a constant leucorrhœa. From this time until November, 1878, a period of five years, she was subjected to local and general treatment. Rest, pessaries, local applications, drugs *ad nauseum*, changes of climate, etc., were vigorously used, without any permanent benefit. In November, 1878, her husband informed me that since her last visit, several months before, she was growing worse, and that attempts at sexual intercourse had been followed by convulsions. After the nurse had placed her upon the table I passed my finger carefully over the surface of the cervix. The right side was healthy, but when the left side, which bore the evidence of a former laceration, was reached, while I was endeavoring to decide its extent and importance, the woman was seized with a convulsion. Instantly it flashed through my mind that I had discovered the trouble; that in the bottom of the laceration the cicatricial tissue was pinching a nerve filament; that here was a neuroma. Again with the sound I sought out in the cleft of the laceration the magic spot. When it was pressed upon the convulsion came at once. Before the patient was released I could produce the convulsion at will. The riddle was at last solved, and I promised if she would submit to a surgical procedure, to cure her; this much I also told her husband.

I did not see her or hear of her again for nearly or quite a year. On November 27, 1879, her husband requested me to meet his family physician, in consultation, in his wife's case.

Consultation. On November 27, 1879, I met Drs. J. P. and Geo. McCord. The former stated that the patient had been under his care since her last visit to me. That she was afraid of a surgical procedure, and insisted upon his services. He also stated that she was "growing worse instead of better," that for several months she had averaged three convulsions per day. I proposed to demonstrate my view of the case. The patient was accordingly placed upon her back, and a round glass pessary removed, which she had worn for

"several months." During the effort to remove the globe she was seized with a convulsion.

After the introduction of Sims's speculum I first demonstrated the existence of a laceration on the left side of the cervix. Then taking a probe and placing the point of it in the angle of the laceration slight pressure provoked the convulsion. The revelation was complete, and the attending physician announced himself convinced. He then tried the experiment in this way. The speculum was removed and he pressed his finger into the vagina and found he could touch any point on the cervix, excepting at the angle of the laceration, without inducing a paroxysm, but when he put his finger-nail into the angle the convulsion followed at once.

A few days later, December 3, 1879, in the presence of those mentioned and Dr. Rahauser, I performed trachelorrhaphy. A very large amount of cicatricial tissue was removed and the wound closed with silver sutures, which were removed on the twelfth day afterwards.

The patient made a good recovery and has never had, up to this day, August 30, 1880, another convulsion. Two weeks ago she told me that she was her own housekeeper.

The next paper was on the Extirpation of an Encephaloid Kidney, by Dr. W. H. Byford, of Chicago. We present the entire paper:—

This case was admitted into and treated in the Hospital for Women and Children, in Chicago; and I am indebted to Dr. Mary H. Thompson, the surgeon-in-chief of that institution, for the very brief history of the case previous to the operation, as well as for subsequent notes.

Dr. Thompson was called to see the patient, Mrs. L., a German woman, thirty-nine years of age, about the 1st of February, 1878. She was married eighteen years before, and had had six children, the youngest being eighteen months old. She was living in the dark and damp basement of a small building occupied by a saloon, and, surrounded with very few of the comforts of life, she was under the necessity of doing a great deal of hard work. Up to the birth of the last child she had enjoyed good health. Since that time she had not recovered from the effects of the confinement. Her appetite had been poor, her digestion painful and imperfect; sometimes she was affected with diarrhoea, and at others with obstinate constipation. Her skin was usually dry, and her feet and hands cold. Her nervous system had also suffered very much; she was excitable and melancholy. Fainting fits, which, from the description, were thought to be hysterio-epileptic, would at times overcome her, and attacks of severe headache were of common occurrence.

Upon examination, Dr. Thompson found her extremely emaciated, skin dry, pulse accelerated, tongue covered with a clay-colored fur in the middle, while the tip was reddish. The conjunctivæ were stained yellow. While the face and extremities were thin and very much emaciated, the abdomen was greatly enlarged, measuring forty-two inches at the umbilicus. There was fluctuation throughout.

As the case was obscure, and the patient could not have proper treatment, Dr. Thompson had her removed to the hospital on February 27, 1878. The treatment during the month of February had consisted in an occasional dose of blue mass, iodide of potassium,

quinine, iron, and saline laxatives, and as good nourishment as the family could procure.

When she came to the hospital the urine was scanty and high colored, but, on examination, its composition was found to be normal. There was certainly no albumen or pus, and but a small quantity of mucus. The abdomen was found to be largely distended with a thin fluid. When the erect position was assumed the shape was not visibly changed, and there was fluctuation at every point. Resonance was noticeable on the left side posteriorly, and across the epigastric region, but could not be elicited on the right side. In the dorsal and lateral recumbent positions, the points of resonance remained the same. By pressing the hand well down into the abdomen, as the patient lay on her back, a large, irregular, solid tumor was easily discovered. The bulk of it seemed to be on the right side, but it extended decidedly beyond the median line, and was susceptible of considerable movement from the right toward the left side, but not upward or downward. The motion was so free that it presented the idea of either no attachments at all, or that they were very long.

The shape of the tumor somewhat resembled that of a fetus in a strongly flexed condition, only that it seemed larger.

Per vaginam the tumor could not be felt. The uterus occupied a position rather farther forward than usual, but was not otherwise displaced. It measured three inches in length. The posterior *cul-de-sac* was distended and fluctuating. The liver and spleen occupied their normal positions. The question, at this stage of the examination, lay between extra-uterine pregnancy and a tumor of the kidney. It was believed that it could not be an ovarian tumor, because it could not be felt in the pelvis, and the uterus remained in position; or a tumor of the uterus, because it was not attached to that organ. If it was an omental tumor, it was thought that it would have been more superficial and not so movable.

I should have mentioned that the menses had been very irregular after the last child, but we could not learn that there had been the copious, painful discharge, attended with evidences of membranous formation, so generally observed in cases of extra-uterine pregnancy. They seemed to be too frequent, without being copious.

The staff of the hospital, while not committing themselves to a positive diagnosis, were inclined to believe the tumor to be of renal origin, and recommended an explorative incision, to which the patient submitted, with the understanding that the tumor would be removed if practicable.

On March 14th, in the presence of Drs. Bogue, Bartlett, Starkie, Thompson, and Hobbs, a small trocar was thrust into the abdominal wall in the median line, midway between the umbilicus and the symphysis pubis, and about a pint of thin, yellow, serous fluid, devoid of viscosity, drawn off. Believing this to be peritoneal serum, the trocar was withdrawn, and an incision made at the same place, about an inch and a half in length, entirely through the abdominal wall. Through this opening sixteen or eighteen pounds of serum were evacuated. The abdominal wall collapsed about the tumor, and rendered it easily accessible by the fingers. It was attached to the right posterior portion of the abdomen by a thin, broad band, partially divided into two parts, and it could be moved

about with considerable facility. Its surface was nodular and impressible, but there was no fluctuation. It was oval in shape, and appeared to be about eight by six inches. From this exploration, I could not doubt that it was an enlarged and diseased kidney, and I determined to remove it. By extending the incision to about seven inches in length, and pressing the abdominal walls back around it, the tumor was expelled from the cavity, revealing two broad peritoneal folds, strengthened by connective tissue, extending over its sides from the back. These were tied in three parts by double silk ligatures and cut through with scissors, and the tumor liberated. The serum, still in considerable quantities, was absorbed by fine carbolized sponges, and removed. This seemed to clean the peritoneal cavity thoroughly as it was taken out, and left everything as clean as possible. After examining the pedicle, to be assured that the vessels were secure, the ligature was cut short, and the whole dropped into what was plainly the bed of the kidney. The wound was closed with silk sutures, and dressed according to Lister's method. The whole operation was, of course, done under the carbolized spray.

The tumor weighed four and a half pounds. It was examined by Professor J. N. Danforth, pathologist to Cook County Hospital, and reported to be the right kidney degenerated into an encephaloid mass. The patient rallied well from the operation, and at ten o'clock P. M. the pulse was 100, and the temperature 101° ; the skin was moist and cool, the mind clear, and the patient cheerful and hopeful. During the 16th and 17th the temperature fluctuated from 100° to 103° ; there was very little pain. On the 17th the movement of gas in the large intestines caused considerable uneasiness, but there was no tympanitis. For this symptom a rectal tube was introduced and kept in position. During the 18th and 19th the temperature and pulse decreased, the former to $99\frac{1}{2}^{\circ}$ and the latter to 105. On the 18th the wound was examined by Drs. Bartlett, Bogue, and Thompson. It looked very well: there were no signs of pus or other discharges. From this time forward the temperature did not rise above $99\frac{1}{2}^{\circ}$, and the pulse not over 105. March 23d, the stitches were removed and the wound dressed with adhesive straps, and an evacuation of the bowels facilitated by an enema of tepid water.

On the 26th of March there was slight diarrhoea, and the abdomen was somewhat distended; otherwise the conditions remained the same. During the 28th the lower end of the wound opened, and a discharge of purulent and offensive fluid issued from it. It became evident from this that the abdomen contained a quantity of septic material that had to be removed. On the 29th the opening in the lower angle of the wound was enlarged, and two or more pounds of the fluid flowed through it. The cavity of the abdomen was thoroughly washed out through a drainage tube with carbolized water, and the tube allowed to remain in the wound to promote the discharge. The abdominal cavity was cleansed in this way daily until the 12th of April, when it was no longer considered necessary. For several days the discharge continued to be very offensive; but before the intra-peritoneal injections were abandoned, it became devoid of all disagreeable odor.

The patient was discharged from the hospital on the 26th of April, 1878, in good spirits and improving health. I have seen her frequently since the operation. In four or five months she had become fleshy

and ruddy in appearance; and the last time I saw her, on the 1st of July, 1880, she had the appearance of perfect health. I could detect nothing abnormal in the contents of the abdomen or pelvis, and the urine was normal in composition. The impoverished condition of the system made support the main object of the treatment, and as the stomach was uniformly tolerant after the operation, the patient took a liberal quantity of nourishing food. The medicines were quinine, iron, and opium. Occasionally the acetate of potash was given, with a view to promote the urinary secretion.

Although the subject of tumors of the kidney is not exactly gynecological, it is one of very great interest to the gynecologist, and this is my apology for bringing it before the society. All tumors of the abdomen are of especial interest to the gynecologist, on account of the value of a correct differential diagnosis between tumors originating in the uterus and ovaries and those of different origin and nature. Cystic tumors of the kidney, in certain stages of development, are not infrequently mistaken for ovarian tumors. It often requires much skill to make a correct differential diagnosis, and sometimes it cannot be done without exploration. I once knew a gynecologist of experience and ability to remove a kidney in a state of cystic degeneration, believing it to be an ovarian tumor, until the nature and point of attachment led to a correction of the diagnosis. There was one condition in this case, as a point of diagnosis, that seemed to me of considerable importance, and that was the great influence of the tumor upon the peritonæum and general health. The peritoneal cavity was greatly distended by serum. This was not the result of a diminution of secretion from the kidneys, or the loss of albumen from the general mass of blood, because the dropsy did not extend to the connective tissue. If the abdominal dropsy had been caused by the attenuated condition of the blood from general anæmia, the extremities would also have been swollen. The serum was no doubt poured out of the peritonæum because of the irritating influence of the tumor. Is not the peritoneal dropsy, when not accompanied with œdema, a significant item in deciding whether the tumor is benign or malignant in its character? It is certainly a condition that must be regarded as indicating a grave state of disease. The depressed state of the general health of the patient may to a certain extent have been produced by her bad hygienic surroundings; but I believe it was mainly attributable to the malignant nature of the tumor, and that in such cases such a condition must weigh heavily as an evidence of malignant disease.

But the most interesting feature of the case to the general pathologist, as well as to the gynecologist, is the complete recovery of general health after the removal of such a mass of encephaloid disease from the system. So far as I can see by a careful examination the patient is in perfect health. It is too soon, of course, to calculate upon ultimate immunity from the disease; but the length of time that has elapsed since her recovery from the effects of the operation is sufficient encouragement to hold out the operation as one of great promise.

Extirpation of the kidney is at this time attracting the attention of the whole profession in this country and Europe; and many successful cases of the removal of one of these organs for various reasons have been published. Extended experience will some day enable the surgeon to decide upon the circumstances

in which nephrectomy is indicated, and consequently justifiable.

The safety of laparotomy under antiseptic conditions will have much influence in extending the usefulness of the operation for extirpating the kidney, and render it less formidable in the eyes of those who would otherwise doubt the propriety of resorting to it.

Dr. Chadwick, of Boston, and Dr. Reeves Jackson, of Chicago, discussed the matter briefly, and, in the main, agreed with the author of the paper.

The next paper read was by Dr. H. F. Campbell, of Augusta, Ga., on *The Value of Quinine in Gynecic and Obstetric Practice*. His paper was intended to show that quinine injections in the different stages of pregnancy were often beneficial to the patient. He lived in a malarial country, and used quinine quite frequently in cases of pregnancy. It had a tendency to contract the uterus and promote therein a healthy action, as it affects the blood-vessels. He cited many cases out of his practice where quinine had been administered with great success, without the slightest danger of abortion. Dr. T. A. Reamy, after explaining the theory of the supposed dangerous character of sulphate of quinine administered in pregnancy, explained how it promotes the supply of oxygen in malarial districts, and always strengthens a woman in confinement, accelerating an easy delivery. Dr. W. S. Howard, of Baltimore, was a great advocate of quinine, asserting that in case of malarial fever a woman is almost sure of abortion unless it is counteracted. He mentioned one case of typhoid fever, where he had administered from sixteen to twenty grains of quinine per day for three consecutive weeks. It relieved congestion, and was a certain cure for an abscess of the breast. He was not opposed to giving quinine in ten and fifteen grain doses, but deprecated its common and indiscriminate use, like that of calomel many years ago. In concluding the discussion Dr. H. F. Campbell, the author of the paper, said that it had been his misfortune to live in malarial districts the whole of his professional career. During the war he had been on the James River, afterward on the Mississippi, and at home he was on the banks of the Savannah. He said he did not know what he would do without quinine.

The fifth annual address was delivered from manuscript by the President, Dr. J. Marion Sims, of New York, in which he severely criticised some clauses of the constitution and by-laws, and advised that, in order to give the society more life and vigor, the president be not eligible for a second term, though the right of the society to choose him again after an interval of two or more terms ought to be preserved. He advised some changes in the routine of the session, in order to facilitate the complete reading and ample discussion of all the papers. He recommended to extend membership to one hundred, to provide for transferring active fellows to honorary fellowship under certain circumstances; to elect candidates for admission by the society, the council to present all names, after investigating the characters and qualifications of candidates; not to require candidates for membership to submit an essay as a test for the same, and to have the council composed of five or seven members, independent of the other officers of the society. Toward the close he used the following emphatic language: "If we persist in maintaining our present formal and repulsive plan of admitting members, I fear some bold leader may arise and organize a rival national obstetrical society on a

liberal basis that will gather in the young talent of the country which we have succeeded so well in repelling from our ranks. I propose to the friends of this movement to fight it out on this line till our constitution is liberalized, and then we will open our doors and stretch forth our hands and conquer our enemies by compelling them to come in on equal terms with us." He advised the annual conventions to be held hereafter in the East, on account of the predominating number of members living there.

In the afternoon session Dr. G. J. Engelmann, of St. Louis, read a paper on the *Instinctive (or natural) and Physiological Position of Woman in Labor*. His remarks showed an extensive research into the history of the ancient, modern, and uncivilized practice on that subject. He illustrated his facts with numerous pictures skillfully drawn on parchment. He described the various positions in use among the Indian tribes of North America. He was opposed to the ordinary recumbent position, and advised physicians to pay more attention to instinctive impulses than to the formulated directions of medical science. It was a function that purely belonged to the animal nature, and hence instinct ought by all means be consulted. He described the various erect, inclined, and horizontal or recumbent positions, and exhibited a picture showing the practice of the ancients. Among the Sioux tribes of Indians and the barbarians of Central Africa the woman is tied to a tree and has a female assistant. The squatting position is used among some of the African tribes and in Persia. The kneeling postures are mainly in use among the red and yellow races—the Mongolians and Indians. They are also prevalent in Ohio, Indiana, Missouri, and other States. Among the tribes along the Amazon River the patient is delivered swinging in a hammock. He said that the semi-recumbent position was the origin of the obstetric chair, and that the reclining position was mainly used in Vermont and Canada among the French. He particularly favored the semi-recumbent position as the easiest, and as giving the best relaxation to the body.

Dr. J. A. Eve, of Augusta, Ga., in criticising the paper praised its learning and historical research, but differed with the author on several points. He did not believe much in natural instinct, but attributed more importance to the aid of science. The woman's impulses, he said, were not instinctive, so much as aided by the kind sympathies of her friends. The savages were not instructed in this matter, and the question was not of much value except in extreme cases. Dr. Fordyce Barker advocated artificial aid, though he did not entirely overlook the advantages of instinct. Dr. Theophilus Parvin, of Indianapolis, did not attach much importance to the force of gravity during the first parturition, as described by Dr. Engelmann. Dr. Reeves Jackson explained the kneeling positions used by the Pennsylvania Germans, and insisted that they were as effective as the orthodox position on the left side. In winding up the discussion, Dr. Engelmann asserted that he had referred in his paper to normal cases—not to abnormal conditions.

Dr. Fordyce Barker read the nominations for the election of new officers. The candidates for the Presidency are Dr. W. H. Byford, of Chicago, and Dr. S. C. Busey, of Washington, D. C.

In the evening a reception was given by Dr. W. W. Dawson to the members of the society and the profession of Cincinnati, Covington, and Newport.

PROCEEDINGS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

THE fourth annual meeting of the American Dermatological Association was held at the Ocean House, Newport, R. I., on Tuesday, August 31, 1880, remaining in session for three days. Dr. L. A. Duhring, president of the Association, occupied the chair. The following members were present: Dr. L. A. Duhring, of Philadelphia; Dr. Arthur Van Harlingen, of Philadelphia; Dr. I. E. Atkinson, of Baltimore; Dr. James C. White, of Boston; Dr. L. D. Bulkley, of New York; Dr. J. Nevins Hyde, of Chicago; Dr. C. Heitzmann, of New York; Dr. J. E. Graham, of Toronto; Dr. W. A. Hardaway, of St. Louis; Dr. Fox, of New York. The meeting was a very satisfactory one, and was admirably conducted. About a dozen papers were read upon subjects connected with the pathology and treatment of diseases of the skin, all of uniform standard of excellence. The committee upon statistics presented reports from different sections of the country, with tables based upon more than eleven thousand cases of skin disease, in which their real and relative frequency in different localities was set forth in each disease upon the list. In considering the question of the prevalence of Chinese leprosy in the United States, but few cases were reported as occurring in California, in comparison with the large numbers of Chinese now living upon the Pacific coast. It was shown, however, that there was a strong reason for hiding the disease among the Chinese, for its discovery would inevitably bring confinement in a hospital, and probably transportation back to China. It was noted by one correspondent that leprosy had almost entirely disappeared in New Orleans, whereas it formerly had prevailed there to such an extent as to require the establishment of leper hospitals in that city.

A resolution was passed offering to the superintendent of the United States Census Bureau the facts and investigations in the report bearing upon the subject of Chinese leprosy, to be used by him should he think it desirable.

Dr. James Nevins Hyde, of Chicago, presented several specimens of Goa powder and chrysophanic acid, which he had found very useful in chronic skin affections.

The president's address gave an account of the progress of the department of medicine devoted to diseases of the skin, within the last decade, which he declared had ushered in a new era of progress for dermatology by establishing it upon sound principles of pathology and of rational treatment. In the course of his address he referred to the services and worth of the late Dr. Tillbury Fox; and also announced the death of Professor Von Hebra, of Vienna, an honorary member of this society, and paid a warm tribute to the exalted character of this distinguished teacher. Later in the session a committee was appointed, which draughted appropriate resolutions of respect to the memory of the great master, which were ordered to be displayed upon the minutes of the meeting.

The following papers were read during the session, which will appear in full in the forthcoming numbers of the *Archives for Dermatology*: Dr. A. Van Harlingen, of Philadelphia, presented a short but very practical paper upon Medicinal Eruptions, which he declared deserved more attention from dermatologists than they had received, both as regards their frequency and the liability to mistake in diagnosis. A very in-

teresting paper upon Ainhum, a disease of the foot among the Africans in Brazil, was read by Dr. J. Nevins Hyde, of Chicago, for Dr. Da Silva Lenia, of Bahia; and it was accompanied by a specimen of a toe from a foot thus affected.

Dr. C. Heitzmann delivered a lecture upon Tumors of the Skin, which considered particularly their histological relationships, and was listened to with marked attention, being illustrated by extemporaneous free-hand pencil drawings.

A paper by Dr. W. A. Hardaway, of St. Louis, reviewed the literature of Papilloma Cutis, giving a résumé of all that had been reported under this title. Dr. James C. White presented an essay by Dr. F. B. Greenough, of Boston, entitled Herpes Progenitalis, which contained a systematic study of this apparently trivial, but, in view of its frequency and liability to be confounded with the initial lesion of syphilis, really important affection. Dr. J. E. Graham, of Toronto, presented a case of scleroderma, which elicited an interesting discussion upon the relationship of this disease to morphea. Pityriasis Maculata et Circinata was the title of an exhaustive paper by Dr. L. A. Duhring, in which he described the characteristics of a distinct disease which he claimed had hitherto escaped detection. It was received with marked attention, although its length precluded the reading of it entire.

Dr. L. D. Bulkley communicated a very practical and suggestive article upon Treatment of Eczema of the Hands, in which the want of uniformity in the present practice of authorities upon skin disorders was indicated, and the experience of the members requested upon some therapeutic points. This paper was compendious and concise, and perhaps upon this account did not receive as much attention as it probably merited, as the queries certainly remained unanswered in the subsequent discussion. The Kerion Stage of Tinea Tonsurans was discussed by Dr. I. E. Atkinson, in a very able and interesting clinical paper. Upon the suggestion of the president the title of the paper was amended, since kerion is not, strictly speaking, a stage, but a variety, of tinea tonsurans.

Some experiments upon epilation were detailed by Dr. Heitzmann, and provoked a very interesting discussion, which was decidedly in favor of electrolysis for this purpose. A very interesting case of lichen planus first appearing on the penis was reported by Dr. L. D. Bulkley, and was generally discussed.

Morning and evening sessions were held during the meeting. The members attended strictly to their duties, and the meeting was therefore a very successful one, the weather and surroundings being sufficiently agreeable to favor the best work of the Association. It was decided to hold the next meeting at the same place, and the following officers were elected to serve the ensuing year: President, Dr. J. Nevins Hyde, of Chicago; Vice-Presidents, Dr. E. Wigglesworth, of Boston, and Dr. C. Heitzmann, of New York; Secretary, Dr. Arthur Van Harlingen, of Philadelphia; Treasurer, Dr. I. E. Atkinson, of Baltimore. Time of meeting, August 30, 31, and September 1, 1881. Place of meeting, Ocean House, Newport.

— Gentian has been repeatedly examined for tannic acid with discrepant results. Professor Maisch has again gone over the ground, and concludes that commercial gentian root is free from it.

Medical and Surgical Journal.

THURSDAY, SEPTEMBER 23, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

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Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

THE INDEX CATALOGUE.

THE first volume of this great work, which has been looked forward to for several years, has finally made its appearance, and the great enterprise so ably conceived and carried on by Dr. Billings is now in a fair way to be accomplished. A few words of explanation as to its character may be of interest to our readers. The library of the surgeon-general's office, although not including completely the entire domain of medical and surgical literature, ancient and modern, is nevertheless one of the largest of its kind in existence, and is particularly rich in periodical literature. To be in any sense a national collection, and of value to the profession not only of this country but of the world, a catalogue was, of course, necessary. A mere list of books contained in the library would hardly meet the demands of modern literature. The catalogue includes, therefore, not only the names of authors, but a list of the titles of all original articles in the medical journals and transactions contained in the library; hence the name Index Catalogue. Cross references are also given when necessary. The immense value of such a work as this to literary men who are working up given subjects will at once be seen. In order that the most satisfactory form should be adopted a "Specimen Fasciculus" was printed in 1876, and the form now adopted "has been selected after a careful consideration of the criticisms and suggestions brought out by that Fasciculus." While the arrangement of titles has been adapted chiefly to the wants of English readers and writers, care has been taken to make it available for use in foreign countries. The work of preparation was begun in 1873, and has been carried on persistently and as rapidly as the amount of clerical aid available and the nature of the work would permit. Although a great portion of the labor has been completed for several years, it was not until the session of 1878-9 that an appropriation was obtained from Congress. The \$20,000 then granted has enabled Dr. Billings to prepare two volumes for publication. The great magnitude of this work may be conceived by a glance at volume one, now being distributed. This ponderous volume of nearly nine hundred pages includes but little more than the letter A. The completed set will include nine or ten volumes. The present one opens with a list of Abbreviations of Titles of Periodicals, which alone occupies a space of one hundred and twenty-six pages. There are 9090 author titles, representing 8031 volumes and 6398 pamphlets; also 9000 subject titles of separate books and pamphlets, and 34,604 titles of articles in

periodicals. A writer, referring to Anatomy, will find thirty-eight pages devoted to this subject, with each particular department of the subject and of its literature under its appropriate heading. The same space and detail are given to Amputations.

Many will doubtless say that such a catalogue is of little use without access to the books, but under the admirable organization of the department any writer, under reasonable guaranties, can obtain all the material he may seek by application, when a box of books will be forwarded and deposited in some adjacent library for his inspection. The enormous growth of modern medical literature would make a comprehensive survey of any given subject well-nigh impossible, except for the means which the indomitable energy and enterprise of one individual who has conceived and is carrying out this gigantic undertaking. Dr. Billings gracefully acknowledges the aid he has received from Dr. Robert Fletcher in carrying this volume through the press, and his indebtedness to Drs. H. C. Yarrow and James R. Chadwick for valuable aid in reading proofs. American physicians may well feel proud of the work which has been done by the medical department of our government since the war. The Army Medical Museum and the great Medical and Surgical History of the War have found a fitting sequel in the Library and Catalogue. Had America done nothing else for medical science she might well rest satisfied with the laurels she has won by so efficient a service as that of the surgeon-general's office.

We understand that Dr. Billings hopes to obtain a further grant from Congress at the coming session, and we would urge every physician to use his influence with the representative of his district to that end. As the work is now rapidly approaching completion, it is particularly desirable that any rare articles or works difficult to obtain should be presented to the library. Although it may be of little value to medical science, each one contributes its mite towards bringing about that end so yearned for by every librarian—the making his collection a complete one.

MEDICAL NOTES.

— We take the following from the *Medical Press and Circular*: At the recent distribution of prizes to students of the Dental Hospital of London, Mr. Sibley, the chairman, in his address referred at length to the subject of the education of dentists and other specialists, and among his remarks the following upon special hospitals are worth quoting as the opinion of a highly representative member of the profession. We have no doubt that Mr. Sibley's views on this subject are shared by the vast majority of the profession, and we think thanks are due to those who, like Mr. Sibley, avail themselves of the opportunity of expressing their opinion:—

Little apology is needed to justify the existence of this special hospital (the Dental Hospital). Almost, but perhaps not quite, in the same category stand the

ophthalmic institutions. To a great extent the objects of these might be as well performed in a department of a general hospital, but the good work done at these institutions justifies their existence.

For obvious reasons mental affections and lying-in cases require separate establishments. So, also, consumption is, unhappily, so common and so extensively spread a disease that it would be impossible to take such cases into a general hospital. They would fill and overflow all the available beds, to the exclusion of other cases. It is therefore necessary to have separate institutions in which such patients can be properly cared for.

Small-pox and fever cases require isolation, and therefore must be treated in separate institutions. Children's diseases have some claim to separate management, but most of these cases can be cared for in a children's ward of a large hospital.

This short catalogue includes almost all necessary establishments. The multiplication of special institutions is not calculated to confer proportionate benefits upon the poor. The expenses of management, as a rule, are out of fair relation to the amount of good done, and the affairs of these smaller institutions are not sufficiently looked into by responsible and independent managers.

Another very great evil resulting from the system of multiplication of special hospitals is that medical education is seriously interfered with. The young medical men sent out into the world from the great hospitals have their opportunities of studying various special forms of disease sadly curtailed, and the result must be that the public will be supplied with doctors who have not had sufficient opportunities of studying special but common forms of disease. This may be of little moment to the public living in the great centres of population, where specialists are numerous, but it is of importance to any one who may happen to be in a more remote district, or in distant parts of the world. These evils would be to a great extent remedied by the establishment of more special departments at the general hospitals, affording the opportunities of studying and treating various specialties to the fullest extent, but controlling the conduct of these departments by the general principles which govern the parent institution.

—The Cincinnati *Lancet and Clinic* credits the *Revista Medicina Cirurgia* of Madrid with the report of a spontaneous cure of congenital amaurosis: A lady of twenty-two years of age consulted Dr. Santos Fernandes. She is of good form, of nervous, lymphatic temperament, and was born blind. Her parents having lost all hope of having her sight restored, she became resigned to her fate. When about fourteen years of age, the girl one morning was able to see a little, the objects being dimly visible. Being much astounded, she returned to bed, and her mother found her clothes bloody. Her neighbors flocked to see the girl restored to sight. When presented to Fernandes her sight was perfect. Whether a similar case can result in a similar manner remains to be seen.

—A case of sudden death during ether administra-

tion is reported in the *Lancet* for September 4th. The patient was a gentleman, aged sixty-six, who had for some weeks previously been the subject of symptoms which eventually culminated in complete obstruction of the bowels, the site of the obstruction being thought to be either in the lower part of the descending colon or the sigmoid flexure. The patient took the ether without resistance. In ten minutes after the operation in the right lumbar region had been begun he manifested an inclination to vomit, and ejected a quantity of brownish fluid smelling of brandy. He took one deep inspiration, made a second effort to vomit, and quietly died. There was no obstacle in the fauces. No post mortem examination was made. Two causes of death are suggested by Mr. Hartley, who reports the case. Distention of the bowels with gas interfering with respiration, and the "undoubted tendency to death from athenia in cases of abdominal obstruction." The latter seems to us the proper explanation of death in this case. That condition of the system which has been termed peritonism is one poorly calculated to withstand the fatigue of the various manœuvres attending a surgical operation, particularly one of such gravity.

—M. Cousin, says the *Practitioner*, publishes in the *Marseille médical*, a paper which confirms the excellent results obtained by Gubler and Bonamy from the use of oxide of zinc in diarrhoea. The majority of cases treated were obstinate and chronic, characterized by abundant and numerous dejections; some were due to simple intestinal catarrh, whilst others were caused by improper food or by cold, others again being symptomatic of tuberculosis. In each case various remedies (opiates, astringents, anti-cathartics, etc.) had been employed without result. M. Roux resorted finally to oxide of zinc, which yielded marked and rapid effects; thus diarrhoea of six, four, and three months' standing was favorably modified within a few days after the administration of the first doses of this remedy. The formula employed, which is the same as that of Gubler and Bonamy, is as follows: Oxide of zinc, 3 grams 50 centigrams. Bicarbonate of soda, 0 grams, 50 centigrams. Make into four powders, one powder to be taken every three hours. The union of the soda bicarbonate with the oxide of zinc causes the latter to be more readily tolerated.

—Some time since it was announced that a prize of one hundred pounds had been offered by Mr. J. V. Bennett-Stanford, for the best essay on Hydrophobia: Its Nature, Prevention, and Treatment. The duty of adjudicating the award was accepted by the Royal College of Physicians, and, the report of the examining committee having been presented, it appears the successful essayist is M. Bourrel, of Paris. There were nineteen essays sent in, and in addition to the one receiving the prize a second, bearing the motto "*multorum annorum opus*," was highly commended by the examiners, who regretted the fact that there was no second prize with which to reward its author. Mr. Bennett-Stanford has offered ten pounds toward the sum of fifty pounds to be subscribed for the purpose, which it is to be hoped will be accomplished. The

arrangements for publishing the successful essay have not been made as yet, and it seems to be an open question whether this shall be done by the giver of the prize, by its recipient, or by the Royal College of Physicians, which has already contributed the perusal of nineteen essays. The only other alternative seems to be the consignment of the prize-essay to a dusty pigeon-hole.

—The *Medical Press and Circular* of August 4th says: "Our weekly summary of the death-rate in foreign cities, from the returns of the registrar-general, shows that St. Petersburg, Berlin, and New York have the highest death-rate at the present time of the cities of the world. Whilst the largest city in Christendom, London, maintains its average rate of mortality, that in the three cities mentioned is about one hundred and fifty per cent. higher."

—At the request of several readers the *St. Louis Courier of Medicine* publishes the Hippocratic oath, as follows:—

I swear by Apollo the physician, and Æsculapius, and Health and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation,—to reckon him who taught me this art equally dear to me as my parents; to share my substance with him, and relieve his necessities—if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation,—and that by precept, lecture, and every other mode of instruction I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness, I will pass my life and practice my art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and, further, from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice, or not in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times! But should I trespass and violate this oath, may the reverse be my lot!

—Professor William H. Van Buren writes thus to the *Louisville Medical News* on Litholapaxy (Bigelow's method): Midsummer brings to the metropolis a certain proportion of surgical visitors, among whom the cases of stone in the bladder just now interest me

most in consequence of the accumulating evidence in favor of the new operation. Within a week I have subjected three cases, aged respectively sixty-seven, sixty-five, and sixty-three, to rapid evacuation by lithotrity,—the litholapaxy of Bigelow,—removing the stone entirely at one sitting under ether, with excellent results. In all of these cases the stone or stones consisted of hard urates and uric acid with no phosphatic addition; the time employed was twenty, forty, and fifty-five minutes, and the corresponding weights ninety, one hundred and thirty, and two hundred and twenty-five grains. In all three the prostate was enlarged; in one of them very much so, rendering it necessary to pick up the fragments with the jaws of the lithotrite reversed, from a deep pouch behind the enlarged gland; but this case did better in some respects than the others.

Since I recognized the great fact of the extreme tolerance of the bladder, first fully demonstrated by Bigelow in 1878, I have done no other operation for stone in the adult, and the cases in which I have been more or less directly concerned, now numbering more than thirty, show but one death.

When we call to mind the conclusions arrived at when Sir Henry Thompson's analysis of five hundred cases of stone was presented and discussed at the Medico-Chirurgical Society of London, the results of which were accepted as the best attained up to that time by lithotrity, and which justified Sir James Paget in deciding that he should still regard lithotomy as the rule in operating for stone, and reserve lithotrity for exceptional cases, we can hardly fail to recognize that this conclusion is in the way of being overturned by the American innovation of evacuation by lithotrity and the washing-bottle at one operation, applied to all cases. I received recently a copy of the last edition of his well-known work on lithotomy and lithotrity from Sir Henry Thompson, and after studying his latest expression of opinion concerning this new method of operating I confess to a feeling of regret and disappointment that this eminent writer has not more fully and frankly acknowledged that our countryman Bigelow was the first to prove by demonstration the heretofore unsuspected tolerance of the bladder under lithotrity, and to propose this discovery as the basis of a new method. I have practiced and taught the old operation of lithotrity for many years, following the methods and teachings of Civiate and Thompson, but I am free to confess that until Dr. Bigelow made public his results in 1878 I had never been led to suspect from the teachings of these eminent authorities that the bladder could be relied upon to tolerate the continued use of crushing instruments for an hour or longer without serious consequences. Before Bigelow the practice had been uniformly enforced of short sittings, through fear of harm from the prolonged contact of instruments. I have in more than one instance been compelled to resort to lithotomy after a first short séance of lithotrity, in order to get rid of a mass of sharp-edged fragments which had got up an acute cystitis. I shall never again be exposed to this dangerous necessity, for I am satisfied by my own experience of the new method that in

any case justifying a resort to lithotripsy the operation should be continued until all fragments have been removed. In other words, the danger in the crushing operation arises, not from the prolonged and careful use of instruments in the bladder, but from leaving fragments capable of keeping up irritation within its cavity. If the bladder is left free from fragments there is little subsequent danger.

Of course a prolonged *réance* of lithotripsy and washing would be hardly possible without anæsthesia. If possible it would be attended pretty certainly by greater difficulty and danger. I have repeatedly been struck with the facility with which full-sized evacuating tubes entered the bladder during anæsthesia, in cases of stone with enlarged prostate, in which the previous use of the more delicate searcher, without ether, had given evidence of a long, narrow, and tortuous passage. Sir James Paget assumed, on the occasion already mentioned, that the operation of lithotripsy in the skillful hands of Sir Henry Thompson had reached its greatest perfection as to detail and its highest probable percentage of success, and that further improvements were not to be looked for, and this assumption was received with acquiescence. It is becoming every day more evident that since this assertion a novel feature, which promises to do away with most previous teachings and to greatly enhance its successful daily use, has been added to lithotripsy. This novel feature is the hitherto unsuspected tolerance of the bladder under prolonged instrumentation and its successful demonstration. The credit of this demonstration belongs to Bigelow. It was almost grasped by that excellent surgeon, Moore, of Rochester, N. Y. (*Trans. Amer. Med. Assoc.*, 1872), who only lacked opportunity to mature his "new method." The great utility of anæsthesia in diminishing its pain and danger renders the prolonged operation practicable for daily use. It is therefore doubly an American improvement in the treatment of stone in the bladder. I have been looking for some evidence from the enterprising surgeons in your stone region concerning the new operation.

PHILADELPHIA.

— Professor Gross has returned, and resumed his duties at Jefferson College, apparently much invigorated and improved in health by his trip. The title of Doctor of Laws, conferred upon the distinguished teacher by Cambridge University during his attendance upon the British Medical Association, is highly appreciated by his numerous friends, who consider it it as an honor to American surgery through its veteran representative.

— The medical schools have begun their preliminary courses of lectures. Jefferson commenced September 6th, and the University of Pennsylvania September 13th. At both schools the regular course of lectures will be inaugurated Monday, October 4, 1880.

— The well-known Philadelphia bogus diploma man, Buchanan, who had been admitted to bail, and had recently disappeared, being supposed to have committed suicide by leaping from a steamer into the Delaware, has finally been found and re-arrested. He

arrived in Philadelphia on the 12th in charge of a detective. He had dyed his hair, shaved his whiskers, and grown a month's mustache, also dyed. He is now in Moyamensing prison, awaiting appearance in the court of quarter sessions. Chapman, his brother-in-law, who was not under arrest, slipped out as a train entered the station, and is at large. Buchanan was taken home, and had rather an affecting interview with his wife. He shed tears freely, seems quite broken up, and will very likely confess the whole thing. The most interest now attaches to the suicide plot, and who personated Buchanan in it. While in Michigan Buchanan sold several diplomas at thirty dollars each. He was arrested last week, having been decoyed to this side of the Canada line by one of his relatives, who proposed to assist him in some spiritualistic jugglery in which he was now employing his wits. Those who think a medical license law not "in accordance with the spirit of our institutions" would do well to recall the freedom which has permitted this man, and we doubt not many like him, to pursue his trade openly for years unharmed.

PHARMACEUTICAL NOTES.

— Mr. Saunders, of London, Canada, has shown that nearly all the decoctions and infusions of the *Pharmacopœia* can be made as well, and many of them better, by diluting the fluid extracts to the required degree, and filtering. — *Proc. Am. Pharm. Ass.*, 1879.

— Mr. J. R. James, from an examination of "otrich pepsin" and "ingluvin," came to the conclusion that they were entirely useless as digestants, ten grains of each having no effect upon a quantity of albumen that one half grain of pig pepsine completely dissolved. — *Pharm. Journ. and Tr.*, February 21, 1880.

Miscellany.

MEDICAL AND SURGICAL NOTES IN THE PACIFIC.

MR. EDITOR, — Medical education in the United States is, as a rule, far from satisfactory, but it is perfection when compared to the almost barbaric crudity of the teachings in the Spanish American Republics. From Mexico to Chili there is little difference. In Mexico the most enlightened medical men have been educated in the United States or France, but these constitute but a small minority, the bulk of the profession being primitively taught the rudiments of medicine in the cities of Mexico or Guatemala, and as they are never known to study after leaving college, are little above the plane of the "Indian medicine man." Medical journals are seldom read by the most prominent, and are unknown to the general practitioners.

Throughout Central America, medicine, if possible, is at a still lower ebb. The college in the city of Guatemala furnishes nearly all the profession, the United States and French colleges contributing a few. In La Union, San Salvador, I was called to see a woman suffering from ovarian cyst; the poor creature had been plastered with the entire flora of the country,

tapped several times through the thickest portion of the abdominal muscles, on the opposite side from the tumor, — with what result can be imagined, — and was altogether in a deplorable state. Ovariectomy could alone save her, but owing to our short stay, a week, it could not be done. I took an aspirator on shore to assist in the diagnosis, and found the family connections, to the number of twenty, in waiting for me. When aspiration was done, and they saw no remaining wound, an enthusiastic bravo was given with all the zest of the Plaza de Toros.

At Puntarenas, Costa Rica, I met Dr. Morales, the leading physician of the city, and, upon interrogation, was not surprised when he told me that they practiced medicine entirely upon the *compendium system*. The doctor acknowledged that he knew nothing of recent progress in medicine, and had never seen more than a half dozen medical journals. I showed him the Boston Medical and Surgical, and explained its hidden meaning; he seemed interested in its novelty, and took the publisher's address, promising to subscribe at once. Much good may it be to the community.

YELLOW FEVER IN PANAMA.

The Lackawanna arrived at Panama, June 24, 1880, and remained three days, maintaining guarded communication with shore. An official investigation of the sanitary condition of the port discovered the presence of two cases of yellow fever in the general hospital, and several semi-officially known in the city. There had been thirty cases, with six deaths, reported by Dr. Amador, the president of the board of health, since the beginning of the epidemic. These facts were strenuously opposed by the American consul, Panama *Star and Herald*, and one Dr. Stamers on account of injury to commerce. The consul reported officially to Captain Gillis, of the Lackawanna, that there was no yellow fever in Panama, nor had there been any. You can judge from this what the value of our consular reports to the National Board of Health must be. We considered Panama a dangerously infected port, and left for Peru.

CAYMAN'S OIL IN CONSUMPTION.

In northern Peru, especially in the Chira Valley, the oil from the *crocodilus palpebrosus* and *crocodilus trigonatus*, as obtained directly from the reptile, is used freely in consumption and cachexiæ with most satisfactory results. It has almost entirely superseded cod-liver oil, being thought more nourishing and palatable. It is given in tablespoonful doses, after meals, for long periods. I have not been able to get a specimen in Lima, but hope to obtain some in the north, to send to the United States for analysis and trial.

LISTERISM IN THE TROPICS.

Six cases of badly incised and lacerated wounds have been treated antiseptically with most excellent results, between latitude 10° north and south. There was very little suppuration in any instance, union being rapid, dry, and firm. In one case in which the thumb was severed at the second joint with the exception of the external lateral ligament and a small strip of skin, union took place by direct adhesion, a slight plastic exudation alone being found. The joint is quite movable, and becoming more so every day. The results have been so encouraging that we have returned to antiseptic dressings exclusively after Lister's method.

SUDDEN AND TRANSIENT SWELLINGS OF THE LIPS.

A case of this peculiar disease in a young man has been under observation for several months. The lower lip is generally selected for attack, the swelling coming on in the night, and passing off the next day, the local temperature is increased about one degree, but there is scarcely any pain or soreness. As a rule the attacks are more frequent in cold weather. The last one came on July 24th, in cold, damp weather, off the coast of Peru, and ran a peculiar course of four days, the advent being, as usual, at night; the first night the lower lip was attacked, the second the upper lip, the third the right cheek, and the fourth the right temple, the swelling of course disappearing, or nearly so, during intervening days. Its pathology is obscure; œdema it certainly is not; active hyperæmia was present in every instance, due to reflex vaso-motor inhibition, caused by sudden impressions of cold.

The Lackawanna is lying off Callao at present, and I shall endeavor to give you a report on the general and field hospitals of Lima.

A. C. HEFFENGER, M. D.,
Passed Assistant Surgeon United States Navy.

INGLUVIN.

MR. EDITOR, — The following testimonial, clipped from the advertising column of the JOURNAL, is a surprise to all parties concerned, — Dr. Howe, Dr. Cross, and myself.

We are none of us aware of having written or stated anything of the kind. Dr. Howe and myself have never reported a case of chronic dyspepsia. Dr. Cross did not have chronic dyspepsia. Warner's ingluvin was never of any marked benefit, either transient or permanent, to him. Yours truly,

E. P. HURD, M. D.

NEWBURYPORT, September 13, 1880.

BROOKLYN, N. Y., August 10, 1878.

MESSRS. WARNER & CO.:

DEAR SIR, — It is with pleasure that I report to you briefly my experience and also that of eminent physicians as to the valuable medicinal qualities of ingluvin, and testify to its superiority in all cases over pepsin.

Drs. F. A. Howe and E. P. Hurd, of Newburyport, Mass., report a case of chronic dyspepsia as follows: Our associate in medicine, Dr. E. Cross, of this city, was taken violently sick. For a time his life was despaired of; everything was tried, but with no good effect. Finally, ingluvin was administered in doses varying from five to ten grains; to our surprise, the patient began at once to mend, and rapidly convalesced. We cannot speak too highly of ingluvin in this case; it is certainly a valuable remedy.

PROFESSOR ACLAND ON PUBLIC MEDICINE IN THE UNITED STATES AND JAPAN.

FROM the address of Prof. Henry W. Acland, F. R. S., delivered at the opening of the section of public medicine, of which he is president, at the recent meeting of the British Medical Association, we take the following extract: —

This is not a suitable occasion for comparing the sanitary progress of other European nations with our

own; but there are two countries, not European, of which I may ask leave to say a few words. No sanitary work at the present moment exceeds in interest the proceedings in respect of health organization and administration inaugurated last year by the National Board of Health in the United States.

In the words of the act of Congress, "The duties of the National Board of Health shall be to obtain information upon all matters affecting the public health; to advise the several departments of the government, the executives of the several States, . . . on all questions submitted by them, or whenever, in the opinion of the board, such advice may tend to the preservation and improvement of the public health;" and they were required to submit a plan for national public health organization, which plan shall be prepared after consultation with the principal sanitary organizations and the secretaries of the several States of the United States.

And then there were constituted the following standing committees: (1) on rules and interpretation of the constituting act; (2) on finance and accounts; (3) on epidemics and contagious diseases; (4) on adulteration and deterioration of food and drugs; (5) on registration and vital statistics; (6) on state and municipal and local sanitary legislation; (7) on diseases of domestic animals.

Besides these seven committees there is an executive committee, with three as a quorum, including the president. This committee is held to be in permanent session. Arrangements were made whereby the executive is fully informed of all the proceedings of the other committees. Care is taken that all proceedings shall be confidential, except such as are communicated to the press by the proper officer of the board.

The board publishes a weekly bulletin, with occasional supplements on matters of importance. These official bulletins, of which one volume is now complete, will gradually become a medium of intercommunication between all the States of the Union, on such subjects as possess an interest common to them all.

It is necessary to bear in mind that the United States are "by no means an homogeneous whole," but have all sorts of climates, and all sorts of people as regards education and occupation; that the laws of the different States (except as regards foreign affairs, post-office, and customs) are made by the States themselves, and the central government at Washington has no control over the individual States except in those particulars.

Philosophically viewed, therefore, the attempted system of health organization is one dependent for its success on the wise adjustment of the central and local interests respectively; that is, on a tempered and temperate recognition of home rule or local government. And at present there is no sign that the practical wisdom of the American people is likely to fail them here, for the central board is advisory, and is only executive at the wish of the local authorities.

The work of this board is one of great interest from its magnitude and complexity, partly owing to the mobility and variety of condition in the population, and partly from the fact that it is undertaken when the united medical profession throughout the world has become fully alive to the vast importance of preventive medicine, and therefore is desirous to obtain precise information and reasonable regulations in respect of sanitary laws.

The States and Territories contain more than three and a half millions of square miles, extending nearly three thousand miles from north to southwest on the Atlantic coast, fifteen hundred miles on the west, and more than three thousand miles across from east to west.

The kind of information bearing on human health, which will be systematically accumulated, is such as will have had no previous parallel.

It is hoped that it may not be improper to observe that the best sanitarians of the United States fully recognize the debt which is due to the self-denying and active persons who, since 1842, have laid the foundations in this country of complete sanitary administration of the science of public health, and made our regulations as complete as they are.

It is worthy of notice that the United States Health Department is truly and practically a board, every member except the solicitor-general being selected on grounds of special fitness for sanitary work. Our local government board is not a board in the same sense, nor composed in the same way of persons chosen for their special knowledge. I say this, of course, under reserve, and with some diffidence. But it is understood that our five secretaries of state, the lord president, lord privy seal, and chancellor of the exchequer, do not and cannot take any active part in the proceedings in the board of nine, the number of the American board. In what relations the legal, engineering, medical, statistical, relief departments stand to the board as a board does not appear on the face of the constitution of the English board. The committees in the United States are essentially sub-departments of the common board, which unites under the president for all general consultative purposes. But into full particulars of this kind it were beside the present object, and indeed not proper, to enter in this place or on this occasion.

Nor can I fail to allude to another sanitary bureau which has been in operation for five years, that of the imperial Japanese government. I will not enter fully into the history of this bureau. But it is to be noted that its code is constructed on the model of codes in Europe and the United States. It publishes a magazine of information on home and foreign affairs. It is engaged in a work of great difficulty, in consequence partly of the large proportion which uneducated bear as yet to educated physicians; but it is carrying on this work in a temper of equal prudence and of zeal which is worthy of all praise. It is really interesting to find the same difficulties as some of those which affect us here appreciated by a very different but remarkable people, at an opposite portion of the globe, and to find them met in the same manner.

THE LATE MISS NEILSON.

DR. W. E. JOHNSTON, of the Boulevard Malesherbes, Paris, gives the following account of the actress's last illness in a letter to the *London Times*: "For the last five years I have had the charge of Miss Neilson's health during her visits to Paris, one of the treatments running through a period of four months. The disease from which she suffered principally was gastralgia, — one of the forms of dyspepsia attended with neuralgia of the stomach, a form extremely fantastic in its com-

ing and going, and in her case quite as dependent on moral causes as on errors of diet. The last fatal attack, in the Bois de Boulogne, was evidently one of her usual attacks of gastralgia, which might have been relieved then, as it often had been before, by a free use of morphine. The unfortunate lady sent her maid for me at seven o'clock, but to my great regret I was absent that evening on a visit to my family in the country, and did not hear of her illness till I heard of her death. At three o'clock in the morning, twelve hours from the commencement of the attack, during a most violent recurrence of the pain, she suddenly ceased to complain, went into a state of syncope, and died in the syncope. The post-mortem examination, made the next day by Dr. Brouardel, professor of legal medicine at the Medical School of Paris, and now one of the first authorities in Europe in legal medicine, disclosed the extraordinary fact, one of the rarest in the history of medicine, that in her writhing she had ruptured a varicose vein in the left Fallopian tube, and had died from internal hæmorrhage. Two quarts and a half of blood were found in the peritoneal cavity, and the ruptured vein presented an orifice of from four to five millimetres in diameter."

The following additional particulars of the fatal ill-

ness of the distinguished *artiste* will be read with interest: Dr. Monnier, of 12, Rue Copernic, was sent for and arrived at four o'clock. He found great physiological disturbance and vesical irritation, pains in the back, and oppression of the chest, with difficulty of breathing; pulse scarcely perceptible. He ordered tea, administered laudanum and ether, and gave instructions for linseed-meal poultices to be applied. The pain was not permanently relieved. Syncope occurred shortly afterwards, but the patient was restored by the application of warmth. Some time subsequently copious vomiting set in. About this time in the case a curious incident occurred, which somewhat disturbed the patient: a bat flew in at an open window and hovered around the bed. "Look at that great bird flying about me!" said Miss Neilson. After a while she grew quieter, and Dr. Monnier took his leave. Subsequently Dr. Gantillon was called in, and ordered two pills (colocynth), which acted freely. At 3.30 Dr. Monnier received an intimation that the patient was worse. On arrival at the house he found her apparently asleep, but was somewhat alarmed by her appearance. On returning to the room after a short absence, he discovered Miss Neilson had been dead about half an hour.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 11, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Lung Diseases.	Diphtheria and Croup.	Typhoid Fever.
New York.....	1,085,000	569	255	30.40	17.57	9.67	7.38	.70
Philadelphia.....	901,380	302	64	17.22	6.62	1.65	3.97	2.98
Brooklyn.....	564,400	255	137	38.43	21.96	5.88	8.63	1.17
Chicago.....	—	181	108	40.88	14.36	4.42	13.81	3.31
St. Louis.....	—	110	38	50.00	15.45	.91	.91	2.73
Baltimore.....	393,796	156	79	26.28	11.54	3.21	2.56	2.56
Boston.....	363,938	151	72	38.41	30.46	7.28	3.97	2.65
Cincinnati.....	280,000	84	37	21.43	11.90	2.38	1.19	3.57
New Orleans.....	210,000	90	24	16.67	2.22	5.56	—	—
District of Columbia.....	170,000	83	37	22.89	6.02	6.02	8.43	—
Buffalo.....	—	—	—	—	—	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	49	28	36.73	12.24	4.08	12.24	6.12
Milwaukee.....	127,000	42	19	21.43	14.29	4.76	—	—
Providence.....	104,862	38	17	28.95	21.05	5.26	—	2.63
New Haven.....	60,000	20	10	25.00	10.00	—	—	5.00
Charleston.....	57,000	25	14	16.00	8.00	4.00	—	—
Nashville.....	37,000	15	6	20.00	6.67	—	—	6.67
Dowell.....	59,340	36	25	50.00	41.67	2.78	—	2.78
Forrester.....	58,040	26	10	38.46	23.08	7.69	3.85	3.85
Cambridge.....	52,860	16	8	25.00	12.50	6.25	—	12.50
Wall River.....	48,626	37	28	13.51	8.11	5.41	2.70	2.70
Lawrence.....	39,068	15	4	13.33	6.67	—	6.67	—
Ynn.....	38,376	22	11	18.18	4.55	—	13.62	—
Springfield.....	33,536	9	3	11.11	11.11	—	—	—
Alam.....	27,347	6	4	50.00	33.33	—	16.67	—
New Bedford.....	27,268	13	5	15.38	7.69	7.69	—	—
Omerville.....	24,964	9	7	77.78	66.67	—	—	—
Olyoke.....	21,961	8	3	25.00	25.00	—	—	—
Bellevue.....	21,780	15	11	46.67	33.33	—	13.33	—
Anton.....	21,145	4	1	—	—	—	—	—
Louise.....	19,288	13	5	23.08	15.38	38.46	7.69	—
Averhill.....	18,478	11	3	36.36	9.09	—	18.18	—
Newton.....	16,994	1	1	—	—	100.00	—	—
Newburyport.....	13,470	6	4	50.00	33.33	—	—	6.67
Itchburg.....	12,270	5	3	—	—	—	—	—
Seventeen Massachusetts towns.....	134,158	41	21	34.15	26.83	7.32	4.88	2.44

Deaths reported, 2463; 1102 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 720, diarrhoeal diseases 386, consumption 329, diphtheria and croup 140, lung diseases 135, malarial fevers 64, typhoid fever 49, scarlet fever 31, whooping-cough 31, small-pox seven, cerebro-spinal meningitis five, erysipelas five, measles two. From *malarial fevers*, New York 14, New Orleans 12, St. Louis 11, Brooklyn nine, District of Columbia six, Baltimore four, Chicago three, Cincinnati, New Haven, Charleston, Worcester, and Haverhill one. From *scarlet fever*, Chicago eight, New York five, Baltimore four, Brooklyn and Pittsburgh three, Providence two, Philadelphia, Cincinnati, Milwaukee, Worcester, New Bedford, and Somerville one. From *whooping-cough*, New York and Baltimore six, Brooklyn four, Chicago three, Philadelphia and Lowell two, St. Louis, Boston, Cincinnati, District of Columbia, Milwaukee, New Haven, Charleston, and Nashville one. From *small-pox*, Philadelphia seven. From *cerebro-spinal meningitis*, New York two, Philadelphia, Chicago, and Milwaukee one. From *erysipelas*, Brooklyn, Chicago, Baltimore, Boston, and New Orleans one. From *measles*, Chicago and Cincinnati one.

Forty-nine cases of diphtheria, 18 of scarlet fever, seven of whooping-cough, six of typhoid fever, and three of measles were reported in Brooklyn; diphtheria 14, scarlet fever two, in Boston; scarlet fever 19, diphtheria 10, in Milwaukee; diphtheria six, scarlet fever six, typhoid fever three, measles two, diarrhoeal diseases one, in Providence; scarlet fever four, diphtheria two, in New Bedford.

In 35 cities and towns of Massachusetts, with a population of 1,052,907 (population of the State 1,783,812), the total death-

rate for the week was 22.05 against 25.09 and 24.00 for the previous two weeks.

Total number of deaths slightly increased, deaths under five years, and deaths from diarrhoeal diseases slightly diminished.

For the week ending August 21st, in 149 German cities and towns, with an estimated population of 7,638,084, the death-rate was 23.2. Deaths reported, 5256; 2582 under five: pulmonary consumption 397, acute diseases of the respiratory organs 207, diphtheria and croup 98, typhoid fever 75, scarlet fever 64, whooping-cough 56, measles and röteln 32, puerperal fever 14, typhus fever (Elbing, Thorn) two, small-pox (Königsberg, Bromberg) two. The death-rates ranged from 13.8 in Metz to 38.5 in Danzig; Königsberg 37.8; Breslau 34.3; Munich 27.3; Dresden 26.2; Berlin 29.4; Leipzig 24.1; Hamburg 30.5; Hanover 21; Bremen 25.8; Cologne 34.9; Frankfurt 20; Strasburg 35.7.

For the week ending August 28th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 25.1. Deaths reported, 3605: diarrhoea 958, acute diseases of the respiratory organs 124, scarlet fever 105, whooping-cough 76, fever 49, measles 32, diphtheria 16, small-pox (London) three. The death-rates ranged from 16 in Bristol to 35 in Leicester and Liverpool; London 21; Birmingham 27; Manchester 33. In Edinburgh 17; Glasgow 19; Dublin 38.

In the 20 chief towns in Switzerland for the week, ending August 28th, population 526,856, there were 39 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 13, diphtheria and croup seven, typhoid fever six, scarlet fever three, measles two, erysipelas one.

The meteorological record for the week in Boston was as follows:—

Date.	Barom- eter.	Thermom- eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.
1880.																			
Sept. 5	29.86	80	93	71	90	40	64	59	W	W	W	8	12	9	C	F	C	—	—
" 6	29.83	78	92	66	69	39	69	63	W	W	W	10	13	12	F	F	O	—	—
" 7	29.95	66	77	63	64	48	78	62	N	E	NE	5	4	1	R	O	O	—	.03
" 8	30.04	60	66	58	58	52	77	76	N	NE	NE	11	18	18	O	O	F	—	—
" 9	30.08	57	62	54	70	66	93	94	NE	NE	NE	17	20	22	O	O	R	—	.78
" 10	30.03	54	57	52	100	100	81	61	NE	N	NW	26	23	9	R	R	O	—	.68
" 11	30.22	63	77	49	79	33	72	68	W	W	W	11	7	6	C	C	C	—	—
Week.	30.00	65	93	49				69	W									26 5	1.49

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 11, 1880, TO SEPTEMBER 17, 1880.

MOORE, JOHN, major and surgeon. Assigned to temporary duty as member of the Medical Examining Board in New York city. S. O. 194, A. G. O., September 11, 1880.

CRONKHITE, H. M., captain and assistant surgeon. Having reported in person at these headquarters, is assigned to temporary duty at Fort Sidney, Nebraska. S. O. 83, Department of the Platte, September 7, 1880.

AINSWORTH, F. C., captain and assistant surgeon. Granted leave of absence for six months. S. O. 196, A. G. O., September 14, 1880.

PRICE, C. E., captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 196, C. S., A. G. O.

REVIEWS.—Gentlemen who have received books for notice in the JOURNAL are requested to send in the reviews at their earliest possible convenience.—ED.

BOOKS AND PAMPHLETS RECEIVED.—Notes on the Diseases of Women. Specially designed for Students preparing for Examination. By J. J. Reynolds, M. D.

A Contribution to the Pathological Histology of Acute Parotitis. By Edward C. Wendt, M. D. (Reprint.)

Internal Urethrotomy: Are the Benefits to be derived from it, as now advocated for the Relief of Stricture, commensurate with its Dangers? By Ambrose L. Ranney, M. D. (Reprint.)

Sanitary Association of Lynn. Annual Report of the Executive Council.

Circulars of Information of the Bureau of Education. No. 3. 1880. Legal Rights of Children.

Department of the Interior. Bureau of Education. Progress of Western Education in China and Siam.

The Indian School at Carlisle Barracks.

Vacation Colonies for Sickly School Children.

Transactions of the Mississippi State Medical Association, 1880.

Annual Address before the American Academy of Medicine at New York, September 16, 1879. By Lewis R. Steiner, M. D.

The Art of Prolonging Life. By Christopher William Huland. Edited by Erasmus Wilson, M. D. Philadelphia: Lindsay and Blakiston. 1880.

American Health Primers. School and Industrial Hygiene. By D. F. Lincoln, M. D. Philadelphia: Presley Blakiston. 1880.

What to do first in Accidents or Poisoning. By Charles W. Dulles, M. D. Philadelphia: Presley Blakiston. 1880.

Excision of the Lower End of the Femur. A Paper read before the Iowa State Medical Society. By J. W. Smith, M. D. (Reprint.)

Lectures.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, SESSION OF 1878-79.

BY FESSENDEN N. OTIS, M. D.,
Clinical Professor of Genito-Urinary Diseases, etc.

VIII. TREATMENT OF SYPHILIS.

Thus far, mercury alone has been suggested in the cure of syphilis — this is simply because it is now conceded by all recent accepted authorities to be, when judiciously administered, the most *certain* — in point of fact, the only certain — means at our command for hastening and establishing a cure for syphilis during the active period of the disease. Since, according to the principles which have been previously insisted on, and to persons, otherwise healthy, who have acquired syphilis, it constitutes a perfectly safe remedy, — the most speedy in its effects and most easy of administration. Through its persistent and intelligent use by far the largest proportion of cases of syphilis may be carried to a complete and satisfactory cure. And yet it is not because mercury aids in the cure of the *initial lesion* or the *eruptions* of the active stage that it is chiefly valuable; it is that, better than any other known remedy, it prevents the later manifestations — the sequelæ of syphilis, compared with which, the temporary inconveniences and sufferings of the early manifestations of the disease are insignificant. These will pass off in time, often in a very short time, and frequently with so little inconvenience or annoyance as to escape observation, — and this with any sort of treatment, or with no treatment: but without a thorough mercurial treatment, the liability to trouble from late lesions — the lesions of so-called tertiary syphilis, constitutes an ever-present peril throughout the life-time of the patient. With it he may rest in comparative security.

There are certain cases, however, where mercury is not well borne, where even the smallest quantity sets up serious irritation in the mucous surfaces, or in the lymphatic and salivary glands; where it aggravates the suppurative processes when present, and *predisposes* every manifestation of syphilis to suppuration. Some one, or even all, these accidents may be found resulting from the persistent use of mercury in persons of a highly scrofulous temperament. There are also rare cases where the susceptibility to the influence of this medicine, independently of any marked scrofulous tendencies, is abnormal.¹ The occurrence of syphilis in such constitutions is especially unfortunate, and must always occasion great solicitude, not only on account of the liability of the disease to pursue a more unfavorable course in such cases, but from the fact that the destruction and elimination of the syphilitic products (absolutely necessary to a cure of syphilis) is rendered difficult by reason of the lack of means to hasten tissue metamorphosis in such cases without including the healthy cell and tissue material, — material which, though capable of laudable development and stability under favoring circumstances, yet, when deteriorated

by the invasion of the syphilitic influence, is prone to break down under the stimulation required to set up fatty metamorphosis of the syphilitic products. Under such circumstances, if with judicious general care, and the use of tonic and supporting treatment, we shall find that tolerance of the remedy, in any form, is not attainable, we are then obliged to make use of other means or measures of recognized value in hastening transformation of tissue. We must, however, recognize the fact, that without mercury we have no prompt and reliable agent in combating the earliest manifestations of the disease.

Iodine and its compounds are found to be remedial agents of recognized value in hastening tissue metamorphosis. Iodine has been long celebrated for its influence in scrofulous hyperplasias, and especially in the treatment of bronchocele or goitre; but Dr. Wallace, of Dublin, was the first, in 1832, to present the iodide of potassium to the profession as of especial value in the treatment of syphilis. It was at once accepted as the best and readiest form of introducing iodine into the system, and soon came to be considered by many as a substitute for mercury — fully equal in its curative power, in all stages of syphilis, while comparatively innocuous in its effects upon the general organism.

Headland² has credited Dr. Williams, of London, with being the first, in 1834, to claim that its chief value was in the treatment of the *late* lesions due to syphilis. It was then suggested that this value was partly, if not wholly, due to the power of the iodide of potassium to unite with certain insoluble forms of mercury, forming a soluble salt, through the absorption of which, the mercury previously administered but not completely absorbed, was rendered efficacious. Dr. Headland says: "It may sometimes fail to effect a cure: a failure which is often due to the *omission of mercury in the primary disease.*"³

Notwithstanding these teachings, which were widely accepted, the iodide of potassium continued to be used in the early stages of syphilis, as well as in the later, as a substitute for mercury, and especially so, on account of strong prejudices against that remedy occasioned by its injudicious administration in syphilis, and its indiscriminate use in all forms of venereal disease.

To this same prejudice may be attributed the fact that, up to the present time, the iodide of potassium has continued to be used by many physicians, in the treatment of the early lesions of syphilis, to the exclusion of mercury; but the results of careful and extended clinical observation by our leading authorities in such matters have shown that its curative influence, in the early stages of syphilis, is small, and that its *power to prevent the later lesions of the disease* (in cases when no mercurials have been used) is so insignificant as to be scarcely recognizable. Its curative influence in the *later* manifestations due to syphilis, namely, in the true sequelæ of the disease, is of a high order, and will be presently considered; but for all the active period, covering the initial lesion from its commencement, through the so-called secondary stage, including

¹ Headland on the Action of Medicines, 4th ed., London, 1867, page 204.

² "The mercury salts, like those of most other metals, form insoluble compounds with albuminous substances:" in this form it is claimed that mercury is deposited in the tissues, and remains until coming in contact with chlorides, bromides, or iodides, it is re-dissolved and again brought into the circulation in an influential form. (Ibid., page 204.)

¹ Concluded from page 289.

² Bäumlér says: "Mercurial treatment is contra-indicated in but few cases of syphilis, and chiefly when the disease is met with in patients who are already seriously affected by some other disease." Ziemssen's Encyc., vol. iii., page 294.)

all lesions incident to it, we have no well-settled testimony of the value of iodine or any of its compounds in interfering materially with the natural course of the disease.

In the absence, however, of any better means, we may use the iodide of potassium in the early stage of syphilis in doses of from five to ten grains, three times a day, in combination with a strong decoction or the fluid extract of sarsaparilla, using also such other measures and medicines as are of known or probable use in hastening tissue metamorphosis, as may be deemed judicious and found practicable in any given case.

We must not forget that the very *crowding* of the superfluous cells, which constitute the active element in syphilis, is highly conducive to their fatty degeneration, and that hence the tendency of the active lesions of syphilis is always toward recovery, *sua sponte*; that, in all probability, nine tenths of all the cases would recover completely in a year or two, if left to the unaided resources of nature. The importance of active interference lies, as has been before impressed upon you, chiefly in the fact that it is during this active period that, without efficient treatment, the damage to the lymphatic system which results in the late or so-called tertiary manifestations of syphilis is claimed to occur. The manner in which such manifestations are brought about was thoroughly discussed during Lectures V. and VI., devoted to the Period of Lymphatic Obstruction, page 41 *et sequitur*. The so-called "gummy material," there shown to constitute the substantial basis of every lesion of late syphilis, was demonstrated to be simply a collection of lymphatic elements, in no way differing from normal cell and tissue growth, confined *in loco* by obstruction to the lymphatic circulation at the points where the lesions occurred. The manner in which, through disturbances of nutrition, destruction of every kind of tissue occurred, was shown. Cases (page 44 *et seq.*) were brought before you illustrating the peculiar appearances and conditions associated with late syphilitic lesions of the skin, the cellular tissue, and the bones. One thing was made prominent in connection with all these cases, and in carefully executed plates representing lesions of the brain, the nervous system, and the viscera, namely, — *accumulations of the so-called gummy material in various conditions and stages of development*. Two prime necessities were shown to be essential to cure in every case: First, the disintegration, absorption, and elimination of a material, the presence of which was claimed to produce by mechanical pressure the various forms of disturbed nutrition and tissue necrosis, presenting; second, to break up and remove the fibrous material upon which the constriction of the lymph channels was claimed to depend. The so-called "gummos material" was shown to be a simple collection of germinal elements and their debris.

The administration of iodine and the iodide of potassium was repeatedly alluded to as a potent agent in inducing fatty degeneration and elimination of such material, to be in fact as essential in the successful treatment of these late or tertiary lesions due to syphilis, as mercury was shown to be in the earlier manifestations and conditions of the disease. This is, and has long been, the reputation possessed by iodine and its compounds throughout the civilized world, and it is based *entirely upon* the results of *clinical observation*. What I propose now is to examine into the properties and powers of iodine and its com-

pounds, to see if we cannot find, in their highly curative action upon the late lesions due to syphilis, a confirmation of our position in regard to the causes of these lesions, and the manner of their improvement and cure under the influence of measures clinically proved to be efficient, and thus substitute a scientific reason for the administration of an approved class of remedies in place of the heretofore empirical assumption that they act as antidotes or specifics or tonics in the cure of the late lesions of syphilis.

In the first place iodine is unequivocally one of the most diffusible of all known remedies. It volatilizes with promptness, and is highly soluble. It is readily taken up by the blood, and thus carried to every portion of the human organism. It has been found by chemical analysis in the blood, saliva, milk, urine, and, according to Ringer, even in the urine of a sucking child whose mother was taking the iodide of potassium. This, then, fully establishes the capacity of iodine to come into actual contact with the products of syphilitic action in any subject of the disease. In the second place, its capacity to modify the products of new formation both in health and disease are well recognized. Fothergill says: "By means of iodine in its various forms (the most distinct and powerful absorbent with which we are acquainted) we excite the lymphatics into greater activity, and so reduce certain tissue enlargements, especially such as consist of certain forms of connective tissue."¹

Lancereaux says: "The salt of iodine is met with in the blood, with all its chemical qualities; . . . it does not modify the blood globules in form or number, but it has the property of acting upon the albumen of the blood. Like mercury, iodine would thus exert a modifying, *solvent* action upon the albumen, and to this action are due, according to Overbeck, the therapeutic effects of the preparations of iodine in syphilis."²

Headland says: "When given for some time it has the effect of impoverishing the blood and diminishing the quantity of fibrine."³ According to Mialhe, "Iodine is one of the most energetic of the class of fluidifiants,"⁴ or agents, which promote fluidity.⁵ Bartholow says that "the iodides increase waste and the elimination of the products of waste." In short, then, according to the best and most recent authorities, we have in iodine and the iodide of potassium remedial agents of the highest value in stimulating the functions of absorption and secretion, of reducing albumen and fibrine in the system, — remedies, also, possessing highly solvent properties when brought into contact with cells and tissues of new formation, — in short, of promoting in well-known ways the process of tissue metamorphosis, through which alone the so-called *gummy material*, which (as far as known, the only material causing the lesions of late syphilis) can be dissolved and eliminated. In the acknowledged absence of any demonstrable virus we are forced to accept a material explanation of these lesions due to syphilis. They have been shown to consist simply of normal germinal elements, accumulated at points where such lesions have occurred, and in sufficient degree to cause by the mechanical obstruction, the disturbance associated with their presence. To a contraction or obstruction of the lymphatic channels at such points alone can

¹ Fothergill on Treatment, page 448.

² Lancereaux on Syphilis, page 330.

³ Headland on the Action of Medicines, page 207.

⁴ Headland, foot-note, page 393.

⁵ Therapeutics, MS., 1879, page 188.

we refer the localized accumulation of this superfluous germinal material. Contractions can only occur through antecedent deposit of fibrous or connective tissue material, such as has been shown to result to greater or less degree throughout the lymphatic system in the active stage of syphilis.

We have then in the treatment of all the late lesions due to syphilis, and according to these views, two pathological conditions which legitimately demand consideration: first, the accumulated material which produces damage to the various structures involved, by mechanical pressure; second, the fibrous material, causing the contraction or obliteration of the lymphatic channels. In the first condition we should expect prompt and efficient relief to the accumulated germinal material through the influence of iodine and the iodide of potassium. Iodide of potassium, says Ringer, is the most soluble of all forms of iodine. It has been found also to be a form the most convenient for administration, and the one most usually acceptable in its effects upon the digestive apparatus. It has, therefore, been most generally used in the treatment of the so-called tertiary stage of syphilis.

Of the practical results of its use, simply as expressing the accepted status of this remedy in the late lesions due to syphilis, I will quote from the most recent authorities on therapeutics in this country, and which is but the reflection of the teachings of distinguished syphilographers throughout the world at the present day. "No therapeutical fact is more conspicuous than the cure of syphilis of the nervous system (arising from the presence of so-called gummy material) by the iodides. Mental disorders, epileptiform seizures, paralytic states, etc., dependent upon *gummata nodes*, etc., are usually removed (by their use) in a manner little short of magical. Syphilitic paraplegia is equally amenable to the same means. The various neuralgias of syphilitic origin (that is to say caused by the presence of *gummata*), occurring in any situation, are usually very promptly cured by the iodide of potassium. . . . There is no therapeutical fact more conclusively established than the power of iodide of potassa, in large doses, to arrest destructive syphilitic ulceration of the nares, palate, tonsils, and larynx."¹ Through their solvent or fluidifiant properties; through their action in stimulating the function of the mucous, lymphatic, and salivary glands; through its power to hasten tissue metamorphosis, iodine and its compounds constitute just the remedies which, from a purely scientific stand-point, we should select as best calculated to remove the elements of new formation which are demonstrated in the constitution of the so-called "*gummy material*." We have prescribed the iodide of potassium to arrest the progress of disease in the cases hitherto brought before you (pages 44 et seq.), and it is just the remedy which we shall find it judicious to prescribe in every case of late trouble due to syphilis, of whatever appearance, or in whatever locality, unless through some personal idiosyncrasy this form of iodine is not well borne.

The second condition alluded to as calling for attention in the treatment of the late lesions due to syphilis is that of the lymphatic channels, where we have shown that there is reason for believing contractions and obstructions due to deposit and organization more or less complete of fibrous material. Here we find, as might

have been inferred *a priori*, that the iodides are not sufficient; that while competent to cause the removal of the gummous material, in the great majority of cases (as previously suggested at page 50), the condition for its reaccumulation remains, and relapses occur. This is a well-established clinical fact. It is also as well established that through administration of a mercurial, in addition to or in combination with the iodide of potassium cures are more speedy and permanent; and hence it has come to be considered requisite for the successful management of lesions of all kinds due to late syphilis to combine mercury with the iodide of potassium. Fothergill says, "By the combination, then, of mercury to break down structurally the neoplastic growths, and iodine to stimulate the lymphatics, we can remove the products of excessive or perverted nutrition."²

It has, I think, been conclusively shown that the so-called gummy material of syphilis is, in the broadest view which can be scientifically taken in regard to it, nothing more than "the products of excessive or perverted nutrition." As such, then, we treat them with mercury and the iodide of potassium; not with the intention of neutralizing a virus, but upon principles which enable us, in case of inability from idiosyncrasy of the patient or from any other cause, to supply other remedial agents and measures, which, though less efficient, will yet be in the direction of intelligent effort to remove not alone the immediate results of syphilitic action, but to combat and often dissipate the conditions upon which the persistent recurrence of the lesions due to late syphilis is shown to depend.

Original Articles.

THE INFLUENCE OF AORTIC ANEURISM AND AORTIC INSUFFICIENCY, SINGLY AND COMBINED, ON THE RETARDATION OF THE PULSE.

BY A. T. KEYT, M. D., CINCINNATI, OHIO.

"L'anévrisme de la portion initiale de l'aorte coexistant avec une insuffisance aortique large, on n'observe pas l'exagération générale du retard du pouls qui est caractéristique de l'anévrisme siégeant à ce niveau; l'influence retardatrice de l'anévrisme est contrebalancée, par l'influence inverse de l'insuffisance aortique; la résultante de ces deux effets opposés qui se combinent, est la conservation de la valeur normale ou presque normale du retard du pouls."³

In the above paragraph François-Franck states in effect three distinct propositions:—

- (1.) Aneurism of the ascending portion of the aorta increases the retardation of the pulse above the normal value.
- (2.) Large insufficiency of the aortic valves diminishes the retardation of the pulse below the normal value.
- (3.) The coexistence of aortic aneurism with large aortic insufficiency causes the retardation of the pulse to preserve the normal, or nearly normal, value.

The truth of the first proposition has been sufficiently attested by François-Franck's researches and my own.⁴ That aortic aneurism produces abnormal delay of the pulse is no longer a question, but remains as one of the great facts of clinical sphygmography.

In regard to the second proposition, François-Franck first insisted on theoretical grounds that the pulse

¹ Treatise on Therapeutics, page 188. By Roberts Bartholow. Appleton & Co., New York, 1879.

² Fothergill on Treatment, page 449.

³ Journal de l'Anat. et de la Physiol., t. xv. (Mars-Avril, 1879).

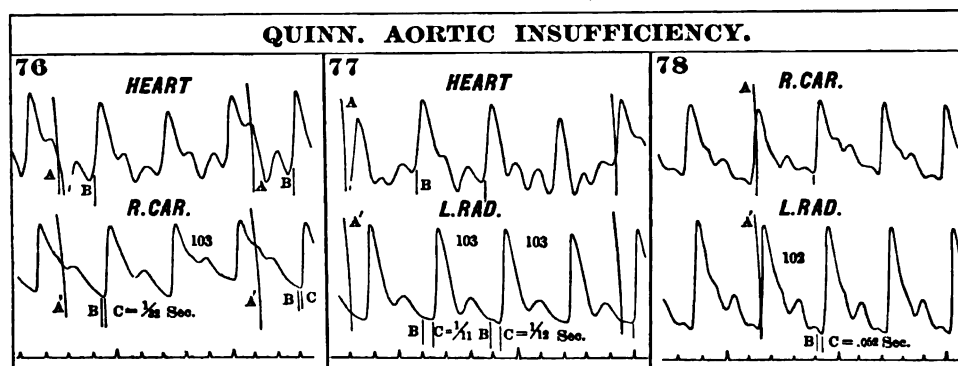
⁴ New York Medical Record, November 29, 1879.

would appear earlier than normal in the condition of large aortic insufficiency, and afterwards was able to produce clinical cases in proof of the correctness of the view. I also, before I had known of M. Franck's researches, had arrived by *à priori* reasoning at this same conclusion,¹ and now, in substantiation, I will place on record the following case:—

Cincinnati Hospital. Service of Dr. C. G. Co-megys. Quinn, age thirty-two years. Diagnosis, aortic insufficiency, with hypertrophy of left ventricle.

In practical value this fact, I think, stands first among the list of clinical facts brought to light by the graphic method. It stands as the exponent of large aortic insufficiency. This condition and no other will produce abnormal precipitation of the pulse on the heart.

In this connection, however, it is important to observe that the phenomenon under consideration will only be manifest in complete (large) insufficiency of the aortic valves, — the condition in which they are per-



Graphic records taken March 27, 1880. No. 76 shows simultaneous tracings of the heart and right carotid, and No. 77 of the heart and left radial; the corresponding time in each also is shown. By very careful measurement² the delay of the carotid pulse on the heart is placed at one thirty-second of a second. The normal delay with pulse-rate at 103, as in this instance, would be about twice this interval. The cardio-radial interval is shown to measure one eleventh to one twelfth of a second. The normal interval would be not less than one eighth of a second.

This was a plain case of free aortic regurgitation, and the graphic records can only be regarded as demonstrating a greatly abbreviated cardio-arterial interval as the direct effect of the aortic insufficiency.

What is the explanation of this interesting fact? In large aortic insufficiency the base of the arterial column rests against the sides of the ventricle instead of against the aortic valves, and is advanced, causing rise of the pulse with the first movement of ventricular contraction. The result is due to shortening or near extinction of the presphygmic interval. This explanation is so complete and satisfactory to my mind, that I am surprised that François-Franck should, without reference to the presphygmic interval, attempt to explain the fact through the idea of increased rate of transmission of the pulse-wave under the conditions of aortic insufficiency.

The velocity of the pulse-wave in this case was rapid indeed, as shown in No. 78, where the time-difference between the carotid and radial pulses measures about one nineteenth of a second. But the greatest possible reduction of the cardio-carotid transit interval would signally fail to account for the great reduction here instanced of the cardio-carotid interval. Therefore the reduction must have been due to marked abbreviation of the presphygmic interval.

¹ Cincinnati Lancet and Clinic, March 22, 1879.

² My custom is to make and mark all measurements from the original slides, and then trust photographic transfer and skillful engraving for correct reproductions; and so accurate is this work, that usually the measurements from the reproductions correspond exactly with those from the originals.

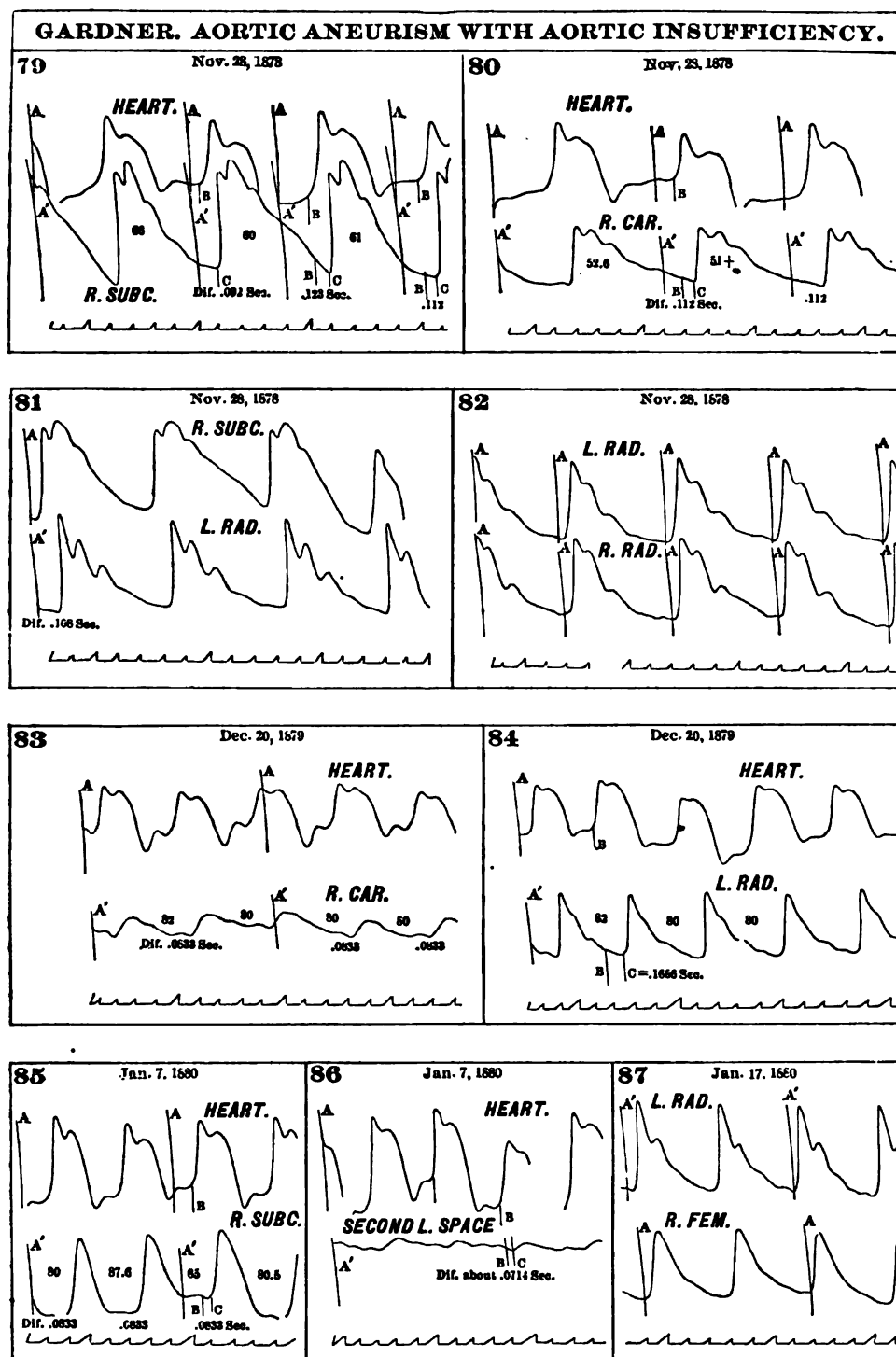
manently open, and the beginning of ventricular systole finds no barrier between the blood in the ventricle and the blood in the aorta. The condition of partial insufficiency in which the valves permit reflux for a time after the beginning of diastole, yet finally close so that the beginning of systole finds the barrier intact, will not signal the phenomenon.

The third proposition is necessarily deducible from the two preceding. If aortic aneurism causes retardation of the pulse, and aortic insufficiency causes precipitation of the pulse, then the conjoint action of the two conditions would counteract each other, and cause the succession of the pulse on the heart to approximate more or less nearly the normal time.

The following case is given in exemplification of this interesting and important fact:—

Charles Gardner, aged fifty-six years, came under my notice in November, 1878, presenting the following symptoms and physical signs: General weakness, dyspnoea on exertion, inability to lie down, pains in chest, back of head, left side of neck, and left shoulder; pulse to fingers strong, full, infrequent, and regular; heart's impulse increased; area of cardiac dullness increased; pronounced double murmur heard over front of chest and in the back; the systolic accentuated at the right base, and conducted towards right clavicle; the diastolic also accentuated at right base, but propagated downwards over body of left ventricle; murmur but faintly heard at apex; at the site of the right subclavian pulse, above the clavicle, a pulsating tumor the size of a pigeon's egg; also visible, but less prominent, pulsation of left subclavian. Graphic observations with my compound sphygmograph were taken November 28th. Samples of the tracings are here faithfully reproduced. No. 79 shows the heart and right subclavian tumor; No. 80, the heart and right carotid; No. 81, the heart and left radial; and No. 82, the two radials, — each pair taken simultaneously, with accompanying time in fifths of seconds.

In December, 1879, I noted the case again. There had been progressive decline, the pains had become more severe and persistent. The action of the heart



and arteries had greatly diminished, and the pulsations become more frequent. The subclavian pulsations had subsided within normal limits. The evidences of enlarged heart, and the murmurs, with the same characters, continued; and in addition feeble undulations were perceptible in the second right interspace near the sternum, and in the first and second left interspaces. Also, the voice at times showed failure, and the power of deglutition was not always perfect. December 20th, tracings were obtained as shown in Nos. 83 and 84;

again, January 7, 1880, as shown in Nos. 85 and 86, and January 17th, as shown in No. 87.

The patient continued to decline, and died July 13, 1880, right hemiplegia setting in a day or two previous to his death.

At the post mortem were present Drs. Isham, Freeman, Barrows, and myself. The following are the notes: Pericardium contained several ounces of fluid. Left ventricle hypertrophied, walls fully one inch thick. Mitral valves, with the exception of slight thickening

towards the base, healthy; evidently fatty, competent during life. Aortic orifice enlarged; aortic valves thickened, corrugated, and calcified throughout; evidently wholly incompetent during life. Ascending aorta greatly dilated, atheromatous, and studded with calcareous matter. Transverse portion of arch the seat of a large aneurism. The sac projected from the anterior superior portion of the wall, and was attached to the upper portion of the sternum, the left clavicle, and first left rib, and pressed upon the trachea and œsophagus. It was full three inches in interior diameter; its walls were soft and flabby, about the thickness of normal left auricular parietes. The surface of the sternum, against which the tumor pressed, was eroded, and about half its thickness removed; also, there was erosion of the sternal end of the left clavicle and first left rib. A mass of laminated fibrine the size of a walnut occupied the distal portion of the sac and projected into the ascending aorta. The latter was also much dilated. The innominate and first part of the right subclavian were dilated to about twice the normal diameters. The right and left common carotids and left subclavian were about normal size. Both auricles, the right ventricle, and right-side valves were normal.

This case was complete, and a typical one of combined aortic aneurism and aortic insufficiency. The sphygmographic records were also complete. The latter we examine with interest, especially at present, with reference to the succession of the arterial pulses on the systole of the ventricle. Evidently aneurism, as in the present case, of the transverse portion of the arch, involving the origins of the three great arteries, namely, innominate, left common carotid, and left subclavian, entails the same effect on the succession of the pulses as aneurism of the ascending portion only; that is, the pulses are all abnormally delayed, and the symmetrical pulses of either side are equally delayed.

The tracings were taken and the successions measured with the greatest care; so the intervals expressed on the plates are reliable, and must approximate throughout very closely the true ones. The showings are as follows:—

November 28, 1878. No. 79. Pulse-rate 66-60. Cardio-subclavian interval .109 second (average).

No. 80. Pulse-rate 52-51. Cardio-carotid interval .112 second.

December 20, 1879. No. 81. Pulse-rate 82-80. Cardio-carotid interval .0833 second.

No. 84. Pulse-rate 82-80. Cardio-radial interval .1666 second.

January 7, 1880. No. 85. Pulse-rate 87-80. Cardio-subclavian interval .0833 second.

These measurements are sufficiently near the normal. In the variations of the time-differences, however, I noticed a bearing towards the longer time, and the average of all the observations, of which a portion only are shown, would indicate rather longer time than obtains in strictly normal conditions, but not sufficiently prolonged to exceed the healthy range or permit the counting of such delay as a definite indication. Then in this case the coexisting aortic aneurism and aortic insufficiency so counterbalanced each other that the retardation of the pulses on the heart was within the normal range.

According to the size and yielding nature of the aneurism must be the amount of delay impressed upon the pulse. An aneurism may be such in these respects as to cause a delay that would overbalance the precipitation entailed by the aortic insufficiency. On the other hand, the conditions may be reversed, and a large aortic insufficiency entail a precipitation that would

overbalance the delay caused by the aortic aneurism. However, when the two conditions coexist, the delay will never be so great as to definitely favor the wrong diagnosis of aortic aneurism alone, nor so small as to definitely favor the wrong diagnosis of aortic insufficiency alone. *If the diagnosis of aortic aneurism be certain, and the pulse, notably the carotid or subclavian, shows no abnormal delay, the conclusion is justified that aortic insufficiency coexists. If the diagnosis of large aortic insufficiency be certain, and the pulse, notably the carotid or subclavian, shows no abnormal precipitation, the conclusion is positive that aortic aneurism coexists.*

So in our case the ordinary signs and symptoms, at the first examination, were sufficient to determine the presence of large aortic insufficiency. Accepting this, the want of abnormal precipitation of the carotid and subclavian pulses enabled me to arrive at the diagnosis of coexisting aortic aneurism before there were any other indications of this condition.

As of interest relating to the localization of aortic aneurism: No. 82 shows the two radial pulses simultaneous, which proves that the aneurism was seated in the ascending portion anterior to the origin of the innominate, or that it was seated in the transverse portion so as to include the origins of both the innominate and left subclavian (and of course also the left common carotid). No. 87 shows the left radial as compared with the right femoral slightly delayed. This is the more usual normal relationship of these pulses, and proves that the aneurism was anterior to the origin of the left subclavian artery. Evidently, had the aneurism been below the origin of the left subclavian, the femoral would have shown delay as compared with the radial. No. 86 shows that the pulsation in the second left interspace succeeded the cardiac pulsation about .0714 of a second, and therefore aided the diagnosis of aneurism as located.

No. 80 is given to show a very ample and finely delineated radial pulse, and the rate of transmission of the pulse-wave between the subclavian and radial points under the conditions then existing in the case. The time-difference measures .108 second, which indicates a rather slow pulse-wave transmission. If this be compared with the carotid-radial interval in the case of Quinn, namely, .052 second, as shown in No. 78, a remarkable difference becomes apparent in the pulse-wave velocity of the two cases. The causes of this diversity are to be found in the dissimilar conditions which pertain to the respective cases.

A CASE OF ENCYSTED ASCITES SIMULATING OVARIAN DROPSY; OPERATION; DEATH; AUTOPSY.

BY AUG. F. ERICH, M. D.,

Professor of Diseases of Women, College of Physicians and Surgeons, Baltimore, Surgeon to the Maryland Woman's Hospital.

THE following case, illustrating the difficulties of the differential diagnosis between encysted dropsy of the peritonæum and of the ovary, is published as a contribution to the statistics of those mistakes in diagnosis which to a wise physician are said to be "more instructive than twenty successes."¹

Annie Talbott, colored, aged twenty, unmarried, but

¹ D. Hayes Agnew. Address before the Pennsylvania State Medical Society, 1878.

mother of two children, consulted me at the Central Dispensary on August 26, 1875, on account of an abdominal tumor. Her last child was born in 1872. She has had no abortions. Menstruation began when she was thirteen years old, and continued regularly until between two and three years ago. At that time she began to have pains in the abdomen, and about two years ago she noticed a tumor in the right iliac region. Since then she has had a great deal of pain in that situation, and the tumor has been constantly enlarging. From the first appearance of the tumor her menstruation had become very irregular, and the amount of the discharge had generally been large. During the last six months she had ceased to menstruate. She has never had leucorrhœa. Has much pain while walking, which she describes as sharp and lancinating.

The abdomen at the umbilicus measured thirty-two inches, the right half being decidedly larger than the left. There were present all the physical signs of a large ovarian cyst in the right side of the abdomen, such as rotundity of the abdomen in the supine posture, dullness on percussion over the surface of the abdomen in the same position, percussion sounds unaltered upon change of position. No evidences of renal, hepatic, or cardiac disease. Skin normal as to color, moisture, etc. No œdema of the feet. The sitting posture affected the shape of the abdomen but little; the line of dullness on its upper boundary, however, was curved, with its convexity upward. Aortic pulsation was transmitted. The uterus was retroverted, of normal size, and slightly movable. A smooth and round tumor occupied the entire roof of the vagina. Her health had not failed more than is usual in ovarian dropsy.

The late Professor Thomas R. Brown, whose untimely death leaves a void in the ranks of progressive surgeons not easy to fill, was present at the examination, and stated that the patient had been under his care for some time; that he had examined her carefully, and diagnosed unilocular ovarian cyst. He had evacuated the cyst by tapping, and finding, upon careful palpation of the abdomen, only so much of the cyst remaining as could be attributed to the collapsed cyst walls, and the fluid evacuated corresponding to all the chemical and microscopic characters stated to be present in ovarian cystic fluids, he sent the case to me for operation. Concurring in the opinion of Professor Brown, with reference to the nature of the case, I determined to operate as soon as more favorable weather set in.

The patient, having suffered much from pain and loss of sleep, presented that peculiarly anxious expression of countenance so characteristic of ovarian dropsy. She was placed upon tonics and alteratives, and also opiates for the relief of pain and sleeplessness. Under this treatment she soon gained flesh, and lost entirely that anxious expression of the face already mentioned, so that on the day of operation she presented a good supply of adipose tissue, and was otherwise in good condition for the operation.

About the middle of September the patient had an attack of peritonitis, which, however, yielded readily to large doses of morphia and quinine. A few days before the operation she was etherized and subjected to another most careful examination, in the presence and with the assistance of Professors Brown and Lynch. During this examination two additional facts were elicited:—

(1.) The presence of a small amount of ascitic fluid in the peritoneal cavity, especially on the left side of the abdomen.

(2.) Slight resonance at a circumscribed point upon the anterior surface of the tumor, near the umbilicus.

The small amount of the ascitic fluid was thought to be the result of the recent attack of peritonitis, and the circumscribed resonance attributed to a loop of intestine adhering to the anterior surface of the tumor,—a rare condition referred to by Peaslee.¹

No other disease except encysted dropsy of the peritoneum could present so many characteristic signs of ovarian cyst as were present in this case; but so many of the supposed distinctive signs of this disease, as laid down by Peaslee,² were absent, that the diagnosis of ovarian cyst was, I think, justified. The diagnostic features of ovarian dropsy, as given by Peaslee, were nearly all present, as rapid growth of the tumor, impairment of health, with the peculiar features, prominence of abdomen, tumor felt per vaginam, uterus behind tumor, large quantity of fluid, and, as positively stated by Professor Brown, a microscopist of experience, the presence of the so-called "ovarian cell." In view of these facts it was decided to operate. On October 29, 1875, after all the usual preparations for ovariectomy had been made, the patient was etherized, and an explorative incision of three inches in length was made in the linea alba. Upon entering the peritoneum a profuse quantity of amber-colored fluid gushed forth, making it evident that the cyst had been opened. An introduction of the hand into the cavity soon satisfied me that the case was one of encysted ascites. I next proceeded to detach the adhesions, and in doing so opened the main cavity of the peritoneum, which was indicated by a new gush of a similar fluid. Finding what seemed to be small cysts between coils of intestine adherent to each other, I enlarged the incision to five inches, opened a number of cysts ranging in size from a hen's egg to an orange, and after carefully cleaning out the abdominal cavity a Thomas's drainage tube was introduced, and the wound closed by deep sutures of silver wire and superficial sutures of silk. The time occupied in the operation from the first incision to the closing of the wound was sixty-one minutes.

Immediately after the operation the patient's temperature was 98.25° F.; pulse 100. She was put to bed, and pain averted by hypodermic injections of morphia. She was nourished by rectal injections of a mixture consisting of beef essence, sweet cream, egg, and whisky. In addition four grains of quinine were given, also per rectum. Later, when the injections were no longer retained, astringents were added to check the diarrhœa. Nothing but ice with a little whisky or table tea could be given by the mouth without exciting vomiting. The abdominal cavity was washed out every eight hours with carbolyzed water of the strength of sixteen grammes to the pint. Later, one drachm of chloride of sodium was added to each pint of the injection. The temperature, pulse, and respiration were recorded every six hours. The temperature generally ranged between 100° F. and 101° F., only four out of the observations taken rising as high as 103° F. The range of the pulse was between 140 and 160, and the respiration between 20 and 24. The observation taken

¹ Ovarian Tumors, New York, 1872, page 150.

² Op. cit., pages 155, 156.

on the sixth day after the operation and five hours before death was, temperature 101.5° F., pulse 140, respiration 18.

Symptoms of septicæmia were developed as early as the third day. Neither temperature, pulse, or respiration indicated the approach of death. The rapidly failing strength and progressively increasing loss of consciousness were the only indications of that issue. Death took place at 1.53 P. M., of November 4th, the patient having lived a little over six days after the operation. The autopsy was held by my colleague Professor Bevan, whose report is as follows:—

POST-MORTEM EXAMINATION OF ANNIE TALBOTT.

"Section made eight hours after death, November 4, 1875:—

"The wound through the abdominal walls made at the operation was five inches in length; the lower part of this incision externally had united around the drainage tube; the external upper part of wound ununited. At points corresponding to the wire and silk sutures adhesion had taken place.

"The post-mortem incision was made from the median line to the angle of the eighth rib, then to crest of the right ilium, along Poupart's ligament to the crest of the left ilium, and the flap thus included turned to the left side.

"The ascending and transverse colon was adherent to the parietes; the stomach was bound firmly to the liver and transverse colon. The peritonæum, both visceral and parietal layers, was of a creamy white color, and everywhere covered with recently exuded lymph. The whole mass of the intestines was firmly bound together, to the neighboring organs and to the abdominal walls. Here and there small pouches or cysts, containing serum, and varying in size from a walnut to a cocoon, were found. They were completely enveloped by either peritoneal adhesions or bridges of lymph. Immediately under the liver and between that organ and the ascending colon was quite a large pouch or cyst; another cyst was found on a line with the umbilicus, between the internal border of the colon, small intestines, and abdominal parietes. The entire contents of the abdomen were bathed with a yellowish ochre-colored fluid of a highly offensive odor. The drainage tube had passed behind the uterus, lymph had formed a complete wall around it, and by an adhesion between the posterior and lower portion of the uterus and the rectum Douglas's cul-de-sac had been obliterated. The ovaries were normal. A cyst of the size of a hen's egg was found at the fundus uteri. The peritonæum over and around the symphysis pubis was much thickened and easily torn. The internal surface of the operative incision was united at one or two points, whilst its edges generally were blackened and gangrenous; this gangrenous condition extended some distance on the small intestines beneath the wound. Kidneys normal. Liver of normal size and color, but very friable. Lungs adherent by their bases to the pleuræ and diaphragm, but otherwise natural. No evidences of tubercle or glandular enlargement about the body. Heart normal."

The death of the patient was evidently due more to septicæmia than to peritonitis. Perfect drainage and washing out of the abdominal cavity was rendered impossible by the numerous divisions formed by the adhesions between the intestines. In addition, the intestines surrounding the drainage tube had become

agglutinated, thus preventing the water entering the main cavity of the peritonæum. This accident suggests the propriety of connecting the drainage tube with the injection apparatus in such a manner as to cause the water partially to fill and distend the cavity before allowing it to escape. I have learned to consider a drainage tube a sometimes necessary evil, and think that it should be dispensed with whenever the peritonæum can be kept clean without it.

An examination of the fluid removed from the cysts gave a specific gravity of 1030; it was of an amber color, did not coagulate spontaneously, and left a thick deposit. A microscopical examination discovered granular bodies corresponding to the "ovarian cell" described by Dr. Drysdale, of Philadelphia, and by him considered diagnostic of ovarian cysts.

After a careful consideration of all the circumstances of this case, and after no inconsiderable subsequent experience, I am as yet "aware of no means by which such cases are to be distinguished from ovarian dropsy."¹

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

THE DEVELOPMENT OF THE STERNUM AND OF THE STERNO-CLAVICULAR JOINT.²

THE observations recorded in this paper refer to three points in the early development of the human sternum and its neighboring parts, namely: the bone itself, the ensiform cartilage, and the parts included between the inner ends of the clavicles. The work has been carefully performed, and the article is about as readable as the nature of the subject will permit. Dr. Ruge's method has been to examine the parts of young human embryos in glycerine with a low power, and then to make a number of microscopic sections of them.

Two views have been held as to the development of the sternum; one that it is formed by the fusion of two lateral halves, the other, that it is originally a median organ. The latter view, which, we believe, has had but few supporters, may now be definitely set aside, at least for the human sternum. Dr. Ruge unfortunately has not seen any of the very earliest stages, but he shows that the two halves appear in connection with the ribs. In a foetus three cm. long they are still separate, though nearly touching in the region of the manubrium. It is there that they first unite, and the line of union runs downward. A transverse line between the second ribs shows the separation of the manubrium from the body. In early stages a similar line is observed between the third ribs. This subsequently disappears in a way that recalls the primary segmentation of the notochord.

Dr. Ruge finds that the ensiform cartilage is also double in its origin, and is formed in a similar way in connection with the ends of the eighth and ninth ribs. A retrograde metamorphosis on each side of this cartilage brings about the adult condition. The author calls attention to the fact that most mammals, and even some of the highest, have more than seven pairs of sternal ribs; hence their transient appearance in the embryo is in accord with several well known phenomena. The occasional variations observed in the

¹ T. Spencer Wells. *Disease of the Ovaries*, page 134.

By G. Ruge. *Morphologisches Jahrbuch*, Band VI., Heft 3, 1880.

adult when more or fewer than seven ribs join the sternum point to a deficiency or an excess of the retrograde process.

Ruge's observations on the upper end of the sternum are very curious, but their signification is not evident. At an early period, when the two halves of the sternum are still distinct, a body appears above each half, between it and the clavicle. Should the too hasty reader jump at the conclusion that these represent the inter-articular cartilages, we beg leave to tell him that he is entirely wrong. The case is by no means so simple. These two bodies become more distinctly cartilaginous and unite into one. At the same time they change their position, so that by the time they form but one, this lies between the upper ends of the sternum, and when at last these unite they inclose it. The lines of separation disappear, and this therefore forms the upper central portion of the manubrium. At about the time this union takes place, changes are observed in the tissue between the sternum and the clavicle. Three layers appear on each side, which are separated one from another by fissures which form the cavities of the joint. The middle layer becomes the inter-articular fibro-cartilage; the outer and inner the cartilage on the clavicle and sternum, respectively. Ruge is inclined to ascribe the little episternal cartilages or bones, which occasionally occur, to remnants of the inner of these three layers. He also seems disposed to hold that all three of them represent the episternum. If so, it must be admitted that the sterno-clavicular joint occurs in the episternum itself. This interpretation is, we think, to be taken with caution. The meaning of the central piece which is included in the sternum is also very obscure. Ruge mentions the possibility of its coming from a seventh cervical rib, which subsequently retrogresses. He thinks that its perfect union with the sternum is in favor of its having also a costal origin. We are inclined to agree with him on this point, and to think it very likely that this piece represents the episternum, which is thus originally double like the rest of the bone and the ensiform cartilage; on the other hand, we see no occasion to suppose that the early stages of the sterno-clavicular joints represent anything else than what they actually are.

THE PHARYNGEAL TONSIL AND BURSA.¹

In two words, the pharyngeal tonsil is a mass of adenoid tissue in the mucous membrane of the top of the pharynx, and the bursa is a median depression or fold in the same. It is frequently divided by a transverse fold into an anterior and posterior portion. Ganghofner considers the existence of the bursa as the rule and not the exception. He finds no demonstration of the theory that it represents a foetal passage from the pharynx to the cranial cavity. He describes the gross appearances of the pharyngeal tonsil of the new born child essentially as follows. The mucous membrane of the roof of the pharynx presents a number (some six or seven) of ridges. The two nearest the median line run about longitudinally, but the outer ones are convex. Their anterior ends converge in the forward third of the roof of the pharynx, and the posterior ends converge to a depression inclosed by the two innermost ridges.

The ridges of this tonsil can be observed in embryos of even three months, with the help of a lens. In chil-

¹ By Dr. F. Ganghofner. Sitzungsberichte des Akademie des Wissenschaften zu Wien, Band LXXVIII., Heft 1-5, 1879.

dren of two or three years they are more distinctly marked. Later, the outer ones are less plain. In the full-grown adult the pharyngeal tonsil is only exceptionally found, at least in examining from the surface.

THE ACTION OF THE INTERCOSTALS² AND OF THE DIAPHRAGM.³

Professor Ebner publishes the results of a vast amount of work on the perplexing question of the action of the intercostal muscles and of the *levator costarum*. The essential part of his method consists in measuring the length of the muscle in various positions, and in assuming that a position in which the points of origin and insertion are brought nearer together is occasioned in part, at least, by the action of the muscle thus shortened. There is probably little danger of error in applying this method to most muscles of the body, but in the case of the intercostals it must be treated with reserve; for, after all, it is by no means established that in ordinary respiration these muscles take much part in causing the movements of the chest. Professor Ebner experimented on thoraces from which everything had been removed but the muscles in question. In some cases an iron rod was passed through the vertebral canal, and the sternum raised and lowered. In other cases, motions of flexion and extension were imparted to the spine. Twisting was also tried, and on other subjects the motions of respiration were imitated by inflating the lungs. We do not propose to give Professor Ebner's results, for in spite of the great labor he has evidently spent on the subject, we fear his researches are of little value. The question is not what the intercostals might do if they acted alone, but how they act, if at all, in respiration as it actually occurs. To try to imitate it by inflating the lungs is absurd, for no amount of inflation can bring the diaphragm and several muscles of the trunk into contraction. Their contraction makes many points, which otherwise would be movable, more or less fixed ones; and, of course, alters all the mechanical relations of the thorax. Any method in which this is lost sight of must necessarily give wrong results. Though this paper does little towards solving the question really at issue, there are parts of it that are well worth reading.

We take Dr. Forbes's paper in this connection because the action of the diaphragm is of such great importance in respiration. Not only does its contraction affect the lower ribs, but, in order that it may contract effectually, it is necessary that the lower ribs should be fixed, at least to some extent. This we believe is done by the *quadratus lumborum*, the deep muscles of the back, and possibly by the abdominal muscles. If this be admitted, all experiments which ignore this fixation, and in which the thorax is assumed to be freely and equally movable, are evidently valueless.

Dr. Forbes, it is true, does not touch this part of the subject. His object is to show the importance of the diaphragm in protecting the heart and in promoting the circulation; hence he, not unnaturally, tends to undervalue its respiratory functions. He calls attention to some points of anatomy which deserve to be remembered. After a general description of the diaphragm, he thus discusses its relations to the pericardium:—

"From the right and left external lateral surfaces of

² By Prof. V. v. Ebner. Archiv für Anatomie und Entwicklungsgeschichte, 1890, second and third Heft.

³ By W. S. Forbes, M. D. The American Journal of the Medical Sciences, July, 1880.

the fibrous membrane of the pericardium, and from near the apex of the pericardial cone, prolongations of the fibrous tissues continue upwards as strong bands, forming the antero-lateral parietes of the superior portion of the posterior mediastinal space and reaching the inner aspect of the first rib on each side, and, coalescing with the thoracic fascia of Sir Astley Cooper, are held in a fixed position by this fascia, which is stretched across the apex of the thoracic cone. These two strong bands, continuous with the lateral portion of the pericardium, thus form fibrous planes reaching from each side of the central tendon of the diaphragm to the bony apex of the thoracic cone. They form what may be called the superior tendinous crura of the diaphragm, upon the sides of which the phrenic nerves descend to reach the diaphragm; and by means of transverse and oblique bands of fibrous tissue connecting these tendinous crura together at and above the pericardial cone, a strong fibrous scaffolding is formed on which the great cardiac vessels are supported and protected. These superior tendinous crura of the diaphragm are inextensible."

We will now quote Dr. Forbes from remarks on the consequences of this arrangement: "The muscular fibres at the circumference of the diaphragm contracting, and the pericardial portion of the central tendon being fixed on a plane with the lower part of the body of the ninth dorsal vertebra, which cannot descend on account of the superior crura and the fibrous scaffolding which I have pointed out, the following parts are acted upon: the aortic arch of the diaphragm is drawn forward and made more free; the muscular oesophageal opening is contracted; the tendinous vena cava opening is held open to its fullest extent. Continuing to contract, the muscular circumference of the diaphragm now exerts its force on the pericardium and the superior crura or lateral fibrous planes, and upon the fibrous scaffolding between these crura, thus holding it open and tense, — open to allow the flow of blood to and from the heart, and tense in order to protect the heart and blood-vessels, which if not protected would have their function greatly impaired by pressure on the part of the now expanding lungs." Dr. Forbes points out that the diaphragm would act in this manner even if prevented from descending, but he does not seem fully to appreciate how important it is that the lower part of the thorax should be to some extent fixed.

Dr. Forbes gives the diaphragm credit for another important function, that of closing the *ductus arteriosus* at birth. The fibrous scaffolding surrounding this vessel is indirectly connected with muscular fibres of the diaphragm, and as these contract it compresses the duct and favors the formation of a clot in it. At the same time, the collateral circulation through the still small pulmonary arteries is promoted. Dr. Forbes denies that "the expansion of the lungs *per se*" has anything to do with the closure of the *ductus arteriosus*. We are not convinced of the correctness of his views on these latter points. Whatever other functions the diaphragm may have, and it has others besides those mentioned here, it is certain that its action in respiration is very important.

THE CARVATORES COCCYGIS.¹

Professor M. Watson reports a case of the occurrence of these very rare muscles, which were probably first described by Albinus. Some anatomists say nothing

of them; others mention them, but in a manner that suggests that one has borrowed the account from another. Professor Watson describes them as of equal size and symmetrically situated. They were two and a half inches long, the greatest breadth being half an inch. They arose from the anterior surface of the sacrum, between the third and fourth anterior sacral foramina, and were attached to the bodies of the last sacral and first coccygeal vertebrae. The two muscles united in a tendon which was inserted into the last piece of the coccyx, though the bulk of the fibres went into the third and fourth coccygeal vertebrae and a few into the second. It is evident that the two muscles have the shape of a V. These muscles are said to be wanting in the anthropoid apes, but they are found, we believe, in most mammals, and are said to be strongly developed in those who use the tail as an organ of prehension.

Hospital Practice and Clinical Memoranda.

BOSTON CITY HOSPITAL.

CASES REPORTED BY H. L. BURRILL, M. D.

INCISED WOUND INTO PERITONEAL CAVITY; INTES-
TINE WOUNDED; ESCAPE OF FÆCES; RECOVERY.

On the evening of May 27, 1879, J. B., aged thirty-eight, stevedore, was stabbed by his wife with a sheath knife.

On May 28th he entered the hospital with an incised wound three and one half inches to the right of and on a level with the umbilicus. A serous fluid is discharging from the wound; it is one and a half inches in depth; a probe passes downwards and slightly to the right a distance of three and a half inches into the abdomen. No marked abdominal tenderness. Pulse 90. Temperature 99.4° F. A graduated compress was placed over the wound. One half a grain of morphine was given subcutaneously.

May 29th. This P. M. fæces were discharged from abdominal wound. Pain not severe. Abdomen tympanitic. Much more tenderness on right than on left side.

May 31st. Wound still discharging freely.

June 1st. Very little pain; considerable tenderness over right lower portion of abdomen.

June 2d. Patient attempted to get out of bed last night. Quite delirious. One sixth of a grain of morphia was given subcutaneously. Quite rational, however, this morning.

June 3d. No discharge of fæcal matter since yesterday afternoon.

June 5th. Very slight tenderness, except very near the wound. No fæcal discharge from wound. Dejection last night.

June 6th. Had two natural dejections to-day.

June 14th. There is to-day for the first time a discharge of pus from the wound.

June 25th. Discharge has wholly ceased, and wound is completely closed. Patient moves about the ward.

June 30th. Patient comfortable. Has normal, painless dejections.

During the next month was about the ward; had no pain, digested food, and walked well, and on July 30th was dismissed, "well."

¹ Journal of Anatomy and Physiology, July, 1880.

WOUND OF ABDOMINAL PARIETES; PROTRUSION OF OMENTUM; LISTER DRESSING; RECOVERY.

While playing one evening, B. G., aged ten, slipped, fell, and was impaled on an iron picket-fence. Entered hospital half an hour later.

There was a wound one and three quarters inches long, situated at the junction of the middle and inner thirds of a line between the right anterior superior spine of the ilium and the spine of the pubes; from this wound a swelling extended upwards and inwards, about three inches, towards the umbilicus; through this wound protruded a piece of omentum the size of an English walnut.

Patient being etherized, Dr. Ingalls reduced the omentum which had protruded in the above-mentioned oblique direction. A "counter opening" was made opposite the upper end of the swelling into the abdominal cavity; a deep silver and four superficial sutures approximated the edges of this opening. Two superficial sutures were used in the original wound, leaving an opening for drainage in the centre. Full "Lister" precautions. Milk diet.

September 20th. Very comfortable. No pain. Temperature 100° F. From this time the temperature never went above 99° F.

September 25th. No constitutional disturbance has been observed. No opiates have ever been necessary.

October 1st. "Lister" for the first time disturbed; no leakage. Sutures removed, and excellent union found. Adhesive plaster to support the parts, and simple cerate dressing.

October 10th. Is up and about the ward, and on the 11th was discharged, well, with a nearly linear cicatrix.

WOUND OF ABDOMEN; PROTRUSION OF INTESTINE; INTESTINE REPLACED; RECOVERY.

J. S., thirty-two years old, bar-tender, had always been in excellent health, but a steady drinker. In a "bar-room fight" was stabbed in the left hypogastric region. Entered the hospital August 3d, with an incised wound, commencing two inches within and a little above the left anterior superior spine of the ilium; it is one inch in length, and passes obliquely upwards and inwards; protruding from it is a knuckle of intestine two inches in length, which had been exposed about an hour and a half, and was red and injected. Hot cloths applied.

The knuckle slipped back into the abdomen before the arrival of Dr. Fifield (an hour's interval), who found on digital examination of wound that the muscle and fascia were so widely separated at the internal opening that deep sutures were deemed inadvisable; consequently two superficial sutures were taken, and wound closed; adhesive plaster; pledget of lint and compress applied over all. There was also a slight incised wound on left thigh, but of no particular moment.

Patient put to bed; foot of bed elevated; thighs slightly flexed and supported by a pillow. One grain of opium given every six hours; four ounces of brandy per diem; milk diet.

August 4th. Patient comfortable, but slightly feverish.

August 5th. Complaints of pain in wound of leg. No abdominal tenderness. Passes flatus.

August 6th. Very comfortable. Opium every eight hours.

August 7th. Stitches removed from wound on thigh.

August 9th. Bandage and stitches removed from abdominal wound; only a drop of pus; wound gapes, approximated by adhesive plaster. Two ounces of brandy per diem.

August 11th. Opium omitted, and a cathartic given, followed by three copious dejections.

August 12th. No pain or abdominal tenderness. Wound nearly closed.

August 18th. Wound has entirely closed, leaving a cicatrix one inch in length and one fourth inch wide. The temperature in this case was not above 100° F., except on the third day, when it reached 102° F., but it fell the next morning.

September 4th. Patient has been waiting for a truss; now has a well-fitted abdominal truss, which he is to wear whenever in the upright position. Discharged, well.

Reports of Societies.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.

THE third day's meeting was called to order on Friday, September 3d, at nine A. M. The following gentlemen were elected officers of the society: President, Dr. W. H. Byford, of Chicago; vice-presidents, Dr. T. A. Reamy of Cincinnati, and Dr. H. F. Campbell of Augusta; council, Dr. A. H. Smith of Philadelphia, Dr. J. C. Reeve of Dayton, Dr. G. H. Lyman of Boston, Dr. J. T. Johnson of Washington; secretary, Dr. James R. Chadwick, of Boston; treasurer, Dr. Paul F. Mundé, of New York. It was voted to meet next year in New York, on the third Wednesday of September. Dr. D. H. Storer was promoted to honorary fellowship in the society. Dr. C. D. Palmer, of Cincinnati, was elected a Fellow. The sum of \$400 was voted to the secretary for clerical services.

Dr. Theophilus Parvin, of Indianapolis, read a paper on Secondary Puerperal Hæmorrhage, which will shortly be published in the JOURNAL. The following discussion took place on the subject.

DISCUSSION OF DR. PARVIN'S PAPER.

Dr. Campbell said: Every one who has had experience in obstetrics must admit that hæmorrhage is one of the most frightful accidents that can occur after labor. It is one of the most rapid in producing death. I have had a great deal of experience, but I am glad to say that my patient has never actually died during one of these hæmorrhages, although I have been intensely alarmed by them. It is my habit before labor and during labor to act with a view of fighting off all accidents, but above all others hæmorrhage. I compress the uterus for the separation of the placenta, and knead it if the thinness of the walls of the abdomen permit it. I compress it and examine it every few minutes. I have a morbid horror of hæmorrhages. The binder is spoken of by some with disrespect, but I have the greatest respect for it, and use it; it acts like the compression of the sheet we used to apply in tapping after ascites. It prevents a faintness from the sudden relaxation of the abdominal muscles.

When called to one of these cases, I remove the clots, call for a piece of ice and run it up to the womb,

and give a dose of ergot and compress the abdomen. I place a book in the region of the umbilicus and a binder upon it. But where ice will not stop it my resource is in the injection of iodine. I was present in four cases of application of the tincture of the solution of iodine in hæmorrhage. It leaves no clot, produces no pain, and generally effects a contraction instantaneous and permanent. I use a Mattison syringe. I pour into an ordinary wine-glass one ounce of tincture of iodine and four of water, introduce my tube, and begin to inject the iodine. Its effect is wonderful and delightful. The clots fall out, and in an instant you feel a firm contraction. I have never known it to fail, and have reason to feel that with iodine in my obstetrical bag, and the tube, etc., I am ready in such cases while the heart still beats. That I present as a perfectly reliable and not dangerous application, providing the fatal stage of insanguination has not taken place. As to iron, I have a horror of it; I would just as soon put a brickbat in the womb. It makes a clot as hard as an old piece of putty after it had been in a window pane for ten years. In some cases I might first try iron with a mop, so as to leave little there to form a coagulum.

Dr. Wilson spoke in substance as follows: In a considerable obstetric practice for thirty years I have had but three cases of alarming puerperal hæmorrhage. I have attributed that in a great measure to the fact that I never pull upon the cord. When the placenta remains, I always prefer to put my hand into the uterus. I never leave a woman until I pass my hand into the cavity of the uterus and let it remain there until I feel a contraction of the uterus and expulsion of the placenta. I think a large majority of cases of secondary puerperal hæmorrhage result from the retention of some small portion of the placenta. There is some foreign substance remaining which sets up the hæmorrhage. I have seen a number of secondary puerperal hæmorrhages continue from one to two months, and in every instance I have met with I have found some small portion remaining in the uterus; so that if I have a case of secondary puerperal hæmorrhage I never fail to carry my finger into the uterus. You can always, in these cases, with your hand on the abdomen, shove down the uterus so that you can examine it. Of course, the cure for this is to remove any small foreign substance which may be found in it. I have never been bold enough to inject iron into the cavity of the uterus. In one of my cases the uterus contracted five or six times, and expanded as it contracted. In my desperation—the woman was dying under my hands—I gave the woman ergot and put a lump of ice in the uterus. It would contract as often as my hand would be inserted, and then expand again. I had not time to get an electric battery, or to have a consultation, or anything. The woman was dying. In an instant it flashed on my mind that under other circumstances I would use the curette. Instantly I put my hand in, and, with pretty long finger nails, I raked and raked until my hand was expelled, and then she had no further dilatation, and the woman got well.

Dr. Barker said he had listened with a great deal of interest to this paper and to the discussion. His views as to the theory, causation, and practice in these cases had been fully expressed in print. He had listened with great interest, not knowing whether the author of the paper lived in a malarial region.

The author of the paper alluded to albumen in the blood as a cause, but did not make any special reference to malarial poisoning, so far as I understood. I wish to inquire of those who reside in malarial regions whether it is not a quite frequent cause. Within the last few years we have often had severe complications of the puerperal and malarial states; so much so that I was induced to prepare a paper on what I termed *puerperal malarial fever*. In one out of ten cases secondary hæmorrhages attends these cases. What I wish to ascertain is whether this is equally observed in other malarial sections.

With regard to the administration of tincture of iodine, I am sorry to say that I have not met with such complete success as Dr. Campbell. One of my colleagues in obstetrics used iodine in one of these cases without effect. Every other resource had been used prior to this, with the exception of hot-water injections. We then agreed to use hot-water injections. We injected something like two gallons of water at a temperature of 110° F. into the vagina. This contracted the uterus, the patient recovered with great rapidity, and there was no recurrence of it.

Iron I have often used. I am well aware of the objections to it, as to what it produces, but in no case have I seen any fatal results. I have always seen it result favorably. But I do not think I shall use it again, except as a last resort, when all other resources have failed.

Dr. Engelmann said he had treated some cases by introducing the speculum and mopping the uterine cavity with a solution of iron. If small wads of cotton are soaked in a solution of iron and the uterine cavity mopped with them, the organ generally contracts. This method was to be used only in cases where the hæmorrhage was not caused by a retained mass.

Dr. Campbell said: Dr. Barker referred to malarial causes as producing hæmorrhage. I live in a strictly malarial district, and from my observations I can fully indorse what he says of post-*puerperal* affections that malaria may produce. I find that the fever which comes on with the paroxysms, and even the hæmorrhages of an intermittent character, are wonderfully modified, if not cured, by the administration of quinine.

Dr. Parvin said he regretted that he had not referred in his paper to malarial poisoning as a cause of secondary puerperal hæmorrhage. It was recognized by physicians as one of the reasons for the administration of quinine to patients after confinement; but if it happened to be a malarial region, and at a time when the malarial poison was peculiarly rife, he would administer quinine both before and subsequent to the confinement.

Dr. W. T. Howard, of Baltimore, read a paper on *Three Fatal Cases of Rupture of the Uterus, with Laparotomy*. This paper was discussed by Drs. Wilson, Parvin, Campbell, and Howard. The society adjourned at one P. M.

In the afternoon session the first paper read was by Dr. James R. Chadwick, of Boston, on the *Hot Rectal Douche*. He said:—

In selecting a title for this paper I have intentionally rejected the term "enema" lest it should suggest that the practice of injecting hot water into the rectum has for its purpose the removal from that viscus of its faecal contents. I have, moreover, sought to ally my use of hot water in the rectum to the well known hot

vaginal douche, because their chief purposes and results are similar, though I believe the hot rectal douche to be in many cases more efficient.

The first group of cases in which I have of late been in the habit of relying upon the hot rectal douche as the sole therapeutic means, includes cases having for their prominent symptom *diarrhœa*, whether acute or chronic, characterized by small frequent evacuations, the cause of which has seemed attributable to inflammation or at least irritation of the mucous membrane lining the rectum and large intestine. Reasoning from the marked benefit derived from the use of water to wash out the morbid secretions of the mucous membrane of the bladder in cystitis, I have for three years been employing the same means for the same purpose in analogous conditions of the lower segment of the alimentary canal, with a like remedial effect. Of course we all know that cold or warm enemata have been resorted to from time immemorial in the treatment of rectal irritability, yet the chief avowed purpose has been the removal of the fecal masses, which, when present, have very properly been regarded as one source of the irritation. In the cases which I shall detail, the dependence of the diarrhœa upon the irritation produced by fecal scybala was definitely eliminated.

Then followed a report of four cases of diarrhœa. He then continued:—

The douche has in my hands proved useful in many other cases of similar character, with one single exception of which I have notes. It was a case of neurasthenia, at one time complicated with retroversion; the douche arrested the diarrhœa at first, but failed utterly to do so on subsequent occasions.

My experience has, however, been so generally satisfactory that I now rarely resort to internal remedies for the arrest of such diarrhœas as can be attributed to conditions of the rectum and large intestine, by which practice I avoid the deleterious effects of opiates, strychnine, etc., upon the general system.

Having been brought up to believe that the hot vaginal douche, as carried out and extolled by Dr. Emmet, should be the chief reliance of physicians in the treatment of all inflammatory conditions within the pelvis, I was early in my practice disappointed with the results of its use, considering the great labor and no little expense involved in the carrying of it out. Dr. Emmet says that the injections cannot be properly taken by the patient unaided; there must therefore be a nurse or friend; the woman must be upon her back, the bed or couch must be so arranged that the hips will be higher than the head; she must have a syringe and bed-pan, both of which will probably require filling or emptying more than once during each injection, or must be exceptionally large and cumbersome, or else the bed-pan must be supplied with an overflow pipe discharging into a vessel by the side of the bed. Among the greater part of my patients I have found it impossible, for one reason or another, to secure the requisite attention to all these details. The result was disappointment to me as well as lack of benefit to the patient. Seeking to circumvent these obstacles to success in treatment, my attention was drawn to the very limited extent of the organs and tissues commonly affected with which the vaginal walls come in contact.

When the peritonæum investing the adjacent organs becomes inflamed, it is manifest that the alimentary canal, as the route by which hot water may be brought into close propinquity with the inflamed sur-

faces, has an incalculable superiority over the vagina, except perhaps in the acute stage of inflammation, when the peristaltic action, which would probably be excited by a rectal douche, might be productive of more harm than the heat and moisture of good. In consequence of this one contra-indication I have restricted my use of the hot rectal douche to the post-inflammatory stage of disease. At such a period hot water introduced into the rectum, in the manner hereafter to be described, will fill the whole pelvic and part of the abdominal cavities, disseminating a grateful warmth, relieving pains, producing, if Emmet's theory be correct, anæmia of the tissues, with which it comes into close propinquity, and promoting resolution and absorption of effused lymph. The effect, moreover, does not cease with the injection, for a large part of the water will often be retained for a considerable period of time. Incidentally the removal of feces, thus rendered certain, is of benefit.

The method of administration of the hot rectal douche, with a view to attaining its utmost benefits, aims at securing the passage of the water in large volume to as high a point as possible in the alimentary tract and its retention for as long a period as possible. Water is taken at as high a temperature as can be borne by the hand; the patient is placed upon her side, preferably the right, in bed; a fountain syringe holding two quarts is employed, suspended quite low, so that the flow of water may be slow; as soon as the patient has a sensation of a desire to defæcate, or the rectum is felt by the finger in the vagina to be distended, the current of water is arrested for a few minutes, without withdrawal of the nozzle from the anus. In this wise one or two quarts of water may commonly be introduced without exciting peristaltic action. The patient must remain quiet for a quarter to half an hour, when, if not sooner, the rectum will generally expel a portion if not all of the water. I am unable to state how high in the intestine the water usually passes, but I am satisfied that it occasionally traverses the whole large intestine to the ileo-cæcal valve.

I generally direct that the douches shall be taken two or three times a day for two or three weeks, then to be intermitted for a week, although this last precaution I hardly think necessary, for I have several times continued the injections four or five weeks without causing any ill effect upon the rectum. In a certain number of cases the douche has given rise to pain at the time of injection, or immediately afterwards, when I have considered it as contra-indicated.

In conclusion, I would reiterate that I recommend the douche chiefly for two entirely distinct classes of cases:—

First, inflammatory conditions of the rectum and large intestine—acute or chronic—characterized by diarrhœa, pain, backache, etc.

Second, the conditions that follow inflammations of the pelvic organs and of the pelvic peritonæum or cellular tissue, characterized by painful defæcation, backache, pain or burning sensations in the abdomen, etc.

The paper was then discussed by Drs. Howard, Campbell, Reamy, and Chadwick. The last paper was by Dr. J. A. Eve, of Augusta, on Occlusion of the Gravid Uterus. Dr. Eve said:—

Occlusion of the pregnant uterus must be of extremely rare occurrence, for there is comparatively little written on the subject in the principal standard obstetric works.

There is only one case reported in the *Obstetric Journal of Great Britain and Ireland*, and reference made to another, but none either in the *American Journal of Obstetrics*, or in the Transactions of the American Gynecological Society.

Dr. Hamilton, of Falkirk, referred to a case of occlusion, in a discussion on the use of the forceps before the Edinburgh Obstetrical Society.

In Dr. Hodge's elaborate work on the principles and practice of obstetrics, under the head of Vaginal Hysterotomy, he relates two cases of occlusion which occurred in the practice of Dr. Bedford; this would certainly indicate that none had ever been encountered in his own most extensive practice.

The following short extract from Cazeaux is all he says on the subject:—

"At the present day it is an ascertained fact that the neck of the womb may be entirely obliterated at the time of labor; and, where a case of this kind does occur, the vaginal Cæsarean operation should doubtless be performed. But it is an exceedingly rare occurrence, and the accoucheur must not permit himself to be deceived by a great obliquity of the cervix, rendering the orifice of difficult access, or by the agglutination of the lips of the os tincæ, since it is possible for an overlapping of the two latter to be mistaken for an absolute obliteration of the orifice. 'Several times,' says Duges, 'we have found the anterior lip covered and embraced by the posterior one, which thus masked the opening, so that the finger could only penetrate it in a very oblique direction; though, when effected, this introduction furnished a means of rectifying the error promptly, and of reducing the parts to a more favorable state.' A complete obliteration of the cervix, when certainly detected, evidently demands the vaginal Cæsarean operation."

Dr. Playfair has known occlusion to recur in two successive pregnancies in the same woman. Dr. Harris, the editor of the second American edition, remarks: "Occlusion of the uterus, from inflammatory change, sometimes so alters the cervix that no sign of the original opening can be discovered; and in two such instances, in the United States, the Cæsarean operation has been performed, in which the women were saved." It is to be hoped it was the vaginal, and not the abdominal, Cæsarean section.

Dr. Leishman, in his excellent system of midwifery, reports no case of entire occlusion, but he teaches the proper treatment, should such a case occur,—that is, early incision. He advises an antero-posterior incision, which, though preferable to the bilateral, is certainly not so safe as the crucial or multiple incisions.

In Dr. Chambaud's case the patient first came under treatment, during the third month of pregnancy, for hæmorrhage. By appropriate treatment the hæmorrhage was arrested, but returned after a short time.

Dr. Chambaud is certainly correct in believing that the incision was deferred too long after the commencement of labor, but the great mistake was in not calling him to the case much sooner.

My own experience with nitrate of silver, during pregnancy, has been very different. In former years, when nitrate of silver was the general remedy in cervical inflammation, I treated a number of cases of endocervicitis, both early and late, during gestation, and always with the most satisfactory results.

Whilst stenosis and sometimes complete occlusion have followed the employment of nitrate of silver in

the absence of pregnancy, in no instance has the least contraction been observed in the pregnant uterus; so much has this been the case, that I have supposed that the normal *ramolissement* of the cervix, attendant on pregnancy, prevented any tendency to contraction or rigidity of the os or cervix from its use. I have treated a number of patients with nitrate of silver who had previously been the subjects of frequent miscarriages, and thus enabled them to complete their gestation, the labor at full term being unembarrassed by stenosis or occlusion of the cervix.

No credit is claimed for the prevention of contraction or occlusion, in cases treated by nitrate of silver during pregnancy, for neither was apprehended. However, since I have more frequently employed iodized phenol instead of nitrate of silver, no occlusion, stenosis, or rigidity has been observed to follow its application, and the result has generally been more satisfactory. The only case of occlusion of the gravid uterus, seen by me, occurred in the practice of my friends, Drs. W. L. and E. D. Alfriend, of Sparta, Ga.

Diagnosis.—The diagnosis in some cases would unquestionably be very difficult, possibly requiring the introduction of the whole hand into the vagina; it is even possible, as Denmau supposes, that a case of great obliquity might be mistaken for occlusion; that is, the os may have turned so far back, or to one side, as to be out of reach of the examining finger.

In great anterior obliquity the cervix is turned so far back into the hollow of the sacrum that it cannot be reached without placing the patient on her back, elevating the pelvis, and raising the uterus; and it might possibly be necessary to insert the whole hand into the vagina.

In a case of lateral obliquity in which labor had continued some days, during which time the attending physician had only once touched the cervix, as soon as the patient's position was changed from the side to the back, and the womb placed in the median line, the os was readily reached, and the labor terminated rapidly.

Etiology.—Inflammation must generally, if not always, be the cause of occlusion during pregnancy, whether the inflammation be the result of mechanical injury, cauterization, syphilis, or gonorrhœa, etc. Among such causes as exert this influence very rarely. Dr. Eklund mentions "deep spontaneous ulcerative lesions occurring during pregnancy; likewise diphtheritic formations, and vaginal injections with caustic liquids."¹

Treatment.—As soon as the diagnosis is declared, the proper treatment must certainly be an early recourse to incision: that is, after the failure of endeavors to open the os by the finger, probe, or sound, and after sufficient time had been allowed to determine whether the uterine contractions could overcome the occlusion. Further delay could not be otherwise than disastrous to the mother or child, or to both, as it has been in several cases recorded by Ashwell, and other authors.

Craniotomy and the forceps have been required, after incisions, to accomplish the delivery; these procedures were doubtless necessary, owing to the long delay before recourse was had to incision, or, possibly, may have been required, owing to some peculiarity of the case, independent of the occlusion.

¹ Strictures of the Cervical Canal, by A. Fredrik Eklund, M. D. Upsal, Stockholm, Sweden. Translated from the Swedish by A. Sibley Campbell, A. B., M. D., Augusta, Georgia.

Incision, crucial or multiple, is the treatment for occlusion, which should be resorted to as soon as detected. I would urge, both for the purpose of discovering and diagnosticating this rare but troublesome lesion, and for the more intelligent and efficient performance of the incisions, that a speculum be employed.

Recent Literature.

Transactions of the American Gynecological Society. Vol. IV. For the year 1879. 8vo, pp. 506. Boston: Houghton, Mifflin & Co. 1880.

THE general style and character of this volume are, as usual, exceedingly good, and the society certainly has reason to be proud of its published Transactions. That it should still require nine months to prepare the volume for issue is to be greatly regretted, for its value would be much enhanced to the profession generally if they could receive it in November or December of the same year, instead of in June of the year following. To this end the secretary presented a motion at the last meeting which would undoubtedly have overcome this serious difficulty; but the motion was unfortunately rejected.

The book opens with the Annual Address of the president, Dr. T. G. Thomas, upon the Gynecology of the Future, and its Relations to Surgery. The conservative tone throughout the address is very pleasing. By this is not meant a refusal to give timely and necessary surgical interference, as will be seen from the following extract: "I assume the position that an enlightened conservative surgery is the pivot around which is to revolve the gynecology of the future; that he who is incapable of meeting the demand for this will, in the future, be, by that fact, incapacitated from rising to the required level; and that a gynecologist of the future without surgical attainments will be as impossible as an ophthalmologist without them is to-day." The discussions of the next two papers on Intra-Uterine Medication, by Dr. James P. White and Dr. Robert Battey, were united after the reading by the latter, and proved one of the most interesting as well as instructive discussions of the meeting. It is to be regretted, however, that at its close the society as such did not give expression to some definite opinion upon a subject of so great importance, that the profession at large might have something to guide them in the practice, as an opinion so expressed would do.

The next two papers in order, The Treatment of Puerperal Septicæmia by Intra-Uterine Injections, by Dr. E. W. Jenks, and Cases of Sporadic Septicæmia in Gynecological Practice, by Dr. J. R. Chadwick, were of great value; the first had real worth in itself, particularly in its summary of conclusions at the close, and the cases of the second elicited very valuable discussions by some of the most influential members of the society. Dr. S. C. Busey's paper on the Cicatrices of Pregnancy shows an amount of study in its preparation which it is pleasing to see. One of the very best articles in the volume is that on Prolapse of the Ovaries, by Dr. P. F. Mundé. Its subject is a much-neglected one, whose importance is, however, keenly felt by every gynecologist. It is treated in a most systematic and practical manner, and every physician should possess the volume for this monogram alone.

Dr. T. Spencer Wells then contributes a case of Re-

moval of Both Ovaries for Dysmenorrhœa, which is followed by an article on Kolpo-Cystotomy by Galvano-Cautery, by Dr. J. Byrne.

An exceedingly important article of the volume is next in order, on Measurements of the Uterine Cavity in Childbed, by Dr. A. D. Sinclair; being the result of a series of carefully conducted examinations by Dr. W. L. Richardson, at the Boston Lying-In Hospital. The writer shows a much more rapid involution undergone by the uterus after labor than has been usually admitted.

Dr. Isaac E. Taylor furnishes two articles: The Early Application of the Forceps in the First Stage of Natural Labor, and Atresia of the Vagina. Other very interesting articles are reported by Drs. W. Goodell, J. T. Johnson, J. C. Reeves, E. Van de Warker, W. H. Byford, W. T. Lusk, N. Bozeman, W. L. Richardson, and H. F. Campbell. The book closes with a memorial sketch, by Dr. Parvin, of Dr. Marmaduke B. Wright, one of the honorary members of the society.

Eyesight: Good and Bad. A Treatise on the Exercise and Preservation of Vision. By ROBERT BRUDENELL CARTER, F. R. C. S., etc. London: Macmillan & Co. 1880.

Mr. Carter's style is so pleasing that there is a strong presumption that anything he has written will be agreeable reading. But this is not the only merit of the little book before us. Written for lay readers, as the author phrases it, "to teach precepts and injunctions which every one should know," it yet contains many practical hints as to the proper employment of glasses, the arrangement of light, etc., that may well be of value to the physician also. For the purpose for which the volume was intended we know of none better, if any as good as this. Mr. Carter makes one statement, however, which should not go uncontradicted, namely, that "Holmgren's method for detection of color-blindness is the only certain one." Excellent as this method is, it is by no means alone in accuracy.

— The Gymnasium for Ladies and Children, which has received such cordial support since [its establishment two years ago, will begin its third year on Monday, October 11th, in new and greatly enlarged quarters. It has been removed from 34 Essex Street to the fine and spacious hall at No. 503 Washington Street. The gymnasium will remain as hitherto under the direction and personal supervision of Miss Mary E. Allen. The long-existing need for more commodious and convenient quarters will be admirably met in the new establishment. The light, ventilation, and heating appliances are said to be all that could be desired, and the dimensions of the hall allow full scope for the working of the different apparatus, and for effective marching and other evolutions. Several well-arranged dressing-rooms, heated by steam, and with toilet conveniences, are attached, and everything needed for the comfort of patrons will be carefully provided. Patients sent by physicians will receive careful attention. Some of our best physicians testify to the care exercised by Miss Allen over the ladies and children intrusted to her charge.

Medical and Surgical Journal.

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A HEALTH JUBILEE.

IN the last two years, when yellow fever was ravaging a part of the country, there was plenty of groaning and lamentation. It is very fit that there should be a proper recognition of the complete immunity of the whole country from this affliction the present summer. This is one subject, at least, in regard to which the North and the South may indulge themselves in a solidity of opinion and a solidarity of interests.

Last week the city of Memphis celebrated by a health jubilee the first freedom from devastation for three years.

The city was decorated with flags and crowded with visitors, who came at the invitation of its merchants to join in the celebration of its renewed salubrity. The procession was more than three miles long, and was composed of representatives of every branch of business and trade.

It is to be hoped there may be many anniversaries of this festivity; how many depends largely upon the inhabitants of Memphis and of other Southern cities themselves. That city is at present well cleansed, its worst features as a breeder of pestilence are abolished, and there is good assurance that things will not be allowed to relapse to their former condition. How thoroughly adapted the new system of drainage may prove to the peculiar local exigencies, time and experience alone will show. The city of Memphis, at least, has done everything which it was in her power to do to deserve immunity from disease, and we heartily congratulate her upon the reward which she is beginning to reap.

A certain engineer is reported to have discovered that New Orleans, instead of being a difficult place to drain, is one of the easiest in the country to put in good hygienic order in this respect. The discovery, if genuine, is a valuable one, and its application can be awaited only with impatience.

A LARGE CALCULUS.

It is not often that one has an opportunity to see so large a stone as that removed last week from a man at the Massachusetts General Hospital, by Dr. Bigelow. The dimensions were $3\frac{1}{2} \times 3\frac{1}{2} \times 3$ inches in its three diameters, not far from the measurements of a well-compressed infant's head. The pelvis that contained it was exceptionally narrow, the patient being small in stature. Curiously enough he had been able

to work until three months ago as a factory-engine fireman, and three years ago, after passing several small calculi, he was sounded, and no stone was found. The specimen has not been examined chemically, but, although exceedingly hard, it is nevertheless supposed to be phosphatic. Dr. Bigelow determined to attempt crushing, which, with his powerful instruments, seemed a possibility; but at the end of half an hour he had evacuated only 476 grains by tube No. 30. In addition to the hardness of the stone it was found that its large diameter was too great to allow the instrument to be locked over it. He therefore decided to cut. Extraction was effected with great difficulty, the stone being adherent to the left side of the bladder; at last, by grasping it with Fergusson's lion forceps, by strongly pressing it down from above the pelvis, when it protruded into the abdomen, it was finally removed. The patient was much exhausted, but at the time of writing (the third day) has a pulse of 96 and a temperature 99° F. only. The calculus in all weighed 6166 grains, and after drying, not far from 12 ounces. The individual carrying this huge concretion in his bladder came from Watertown, near Boston, being a patient of Dr. Hosmer.

The few who were fortunate enough to be present at an operation presenting such unusual complications, so easily met and overcome by the skillful operator, will be likely to reckon the occasion as one of the most interesting in their surgical experiences.

BAD DRAINAGE UNDERLYING GOOD HYGIENE.

It is very desirable that the Health Department of the State Board of Health, Lunacy, and Charity should be in a position to practice in its own immediate surroundings, and in those of its officers, those good hygienic precepts the diffusion of which throughout the State has been one of its most important functions. It is indeed hard, after having preached zealously and conscientiously to others, to be forced to stand before the world as an involuntary castaway.

Yet it is the sad irony of fact that the very rooms in the State House in which so much good work has been done, and from which so many warning circulars have been issued to put the inhabitants of the State at large on their guard against bad drainage, and to protect them from the so-called filth diseases, are themselves invaded by an irreverent atmosphere bearing the effluvia of defective drainage. Were typhoid fever the child of bad drains it should have found here long ago a congenial birthplace. It is only possible for one who has had work to do in this mephitic atmosphere to appreciate at its full value the remarkable energy displayed in the labors of the board.

It seems as if officials of the commonwealth who have the power to control large manufacturing industries and to purify rivers were more helpless than the poorest private citizen in obtaining for themselves that first necessary of life, — good air.

MEDICAL NOTES.

— We are glad to be able to state that Dr. Calvin Ellis has returned from Mount Desert with health greatly improved. — Dr. Charles D. Homans sustained a Pott's fracture while roaming among the rocks at Mount Desert a few weeks since. He bids fair, however, to make a rapid recovery. — President Eliot returns this week from a summer trip to Europe.

— No progress has been made in building the new medical school, although land for the purpose was purchased by the corporation early last spring. It is situated in the rear of the lot intended for the new city library, which latter is to front upon "Art Square."

— On Sunday, September 19th, James C. Dorr, a popular physician of Medford, died in that town, at the age of fifty-seven years. He was a native of Milton, N. H., and a graduate of Dartmouth College in the class of 1851. After several years of successful medical practice in Medford, he received from President Lincoln a commission as surgeon in the Union army, and served in Washington, and afterwards in Tennessee, where he acted as medical purveyor. The state of his health compelled him to resign his commission before the close of the war, and he has since been actively engaged in the practice of his profession in Medford. In the hope of improving his impaired health he visited Europe a few years since, and traveled extensively in Great Britain and on the Continent. Few men in Medford were better known or more highly esteemed, and in his death that community has sustained a heavy loss.

— The first step towards the establishment of vacation colonies in Europe for poor sickly pupils was made by Pastor Bion, who, after having been transferred from Trogen, Canton Appenzell, to Zürich, was struck by the languid and sickly looks of many pupils. He at once decided to give them relief. After having collected the necessary means, he was enabled, in July, 1876, to send 34 boys and 30 girls, in charge of five male and several female teachers, and in the following year 39 boys and 55 girls, in charge of five male and eight female teachers, for fourteen days, into the country in the vicinity of Trogen.

Reports as to the success of these colonies led the sanitary councilor, Dr. Varrentrapp, at Frankfort-on-the-Main, to visit them. The impression which the colonies made on him induced him to imitate them at home; and so, in the year 1878, a committee was organized for this purpose at Frankfort. Of the 173 boys who applied to be admitted, the committee, aided by two physicians, selected the 97 who appeared to be the weakest. Of these 97 children, 93 were between the ages of nine and fourteen years, two were eight years old, one fifteen, and one seventeen. They were divided into eight groups, each of which was placed in charge of a teacher. The children left the city July 2d, and returned July 25th. The total expenses amounted to 5373 marks 30 pfennige (one mark equals 23.8 cents), or 55 marks 39 pfennige for each child (\$13.18).

The children were all greatly improved in health on their return.

In 1879, 241 boys and 164 girls applied for admission. Of these numbers, 85 boys and 48 girls were sent into the country, where they remained twenty-five days. The expenses amounted to 7478 marks 50 pfennige, or 56 marks 30 pfennige (\$13.40) for every child.

The city of Dresden also organized a committee last year for this purpose. Five thousand four hundred marks were collected, and 36 boys and 30 girls were sent into the country. The results were excellent.

At Stuttgart, vacation colonies were organized by a committee under Dr. Albert Sigl. In 1879, 55 children were sent into the country from July 18th to August 11th. The amount of money collected for this purpose was 3720 marks.

Finally, the city of Vienna must be mentioned. In 1879, 20 boys were sent to a country place at Weissenbach.

This year (1880) the city of Berlin is going to join the movement. The local committee has for president the minister of state, Dr. Falk.

— In a recent work entitled *Histoire de la Médecine à Troyes*, Dr. Guichet relates that the College of Physicians of that town brought an action against a certain Nicolas Bailli for administering internal remedies to his patients and *putting them to sleep*. In defense Bailli declared that, having observed that in great operations, amputations, incisions, actual and potential cauterizations, many patients slipped through his hands for want of sleep, he had studied the secrets of nature, and had at last found a cordial, or marvelous essence, which put them to sleep softly, and appeased their sensibility to pain.

— The permanent commission on the hygiene of infancy in France, after examining a number of papers and letters sent in in competition for the prize offered for the best treatise on Artificial Nursing, report that nearly all those who have considered the subject arrive at the following conclusions: (1.) When absolutely uncontrollable circumstances make it impossible that the child should be suckled, either by the mother or by a wet nurse, artificial nourishment should be resorted to at home, only by the mother, or under her immediate superintendence. (2.) When there is a necessity for bringing up the infant by hand, and not under the mother's care, it should be placed under the care of a conscientious, careful, and experienced woman, having a good supply of fresh milk. (3.) Mixed feeding is a good method, and accustoms the child to artificial nourishment. (4.) Bringing up by hand, when applied under good conditions, for robust children, the offspring of healthy parents, gives, when employed at home, and especially in the country, excellent results, and is certainly superior to suckling by wet-nurses living at home with their husbands, and poorly remunerated. (5.) Bringing up by hand, when attempted beyond the reach of family superintendence, yields results inferior to suckling under the same conditions. (6.) Bringing up by hand in a collection of children certainly exposes the infants to great risks, and generally ends fatally, whatever may be the pre-

cautions taken and the hygienic measures adopted. To these conclusions M. Villiers, the secretary of the commission, adds the following recommendations: Where breast-milk is wanting for the infant, the milk of a cow or goat which has recently been delivered, or of milk of the first milking; or, if that cannot be had, warm milk diluted with half water during the first week, and, during the second week, with a fourth part of added water slightly sweetened, according to the digestive power of the child. This milk should be given to the children from glass or earthenware vessels, which should be carefully washed every time they are used. No vessels should be used which contain lead, or mouth-pieces made with vulcanized india rubber. It should be borne in mind that feeding with the bottle or feeding-cup entirely without the breast greatly increases the chances of illness and death to the child, unless such method of nourishment is made use of in the family circle and by experienced persons. This plan of feeding cannot be adopted in the midst of a collection of children without causing them to incur the greatest risks.

— In the *Dublin Journal of Medical Science* for August appears the following review. For unmitigated lucidity of meaning it is perfect:—

Physiological Therapeutics: a New Theory. By T. W. POOLE, M. D. Toronto. 1879.

We greatly suspect that the judgment of most of those who read this book may be expressed in the words of the author himself, who, in the concluding paragraph, with a seeming forecast of his fate, says: "Some will treat our pages with silent contempt; others will characterize them as 'mere theory,' and, consequently, regard them as unworthy of serious attention."

— Dr. Heath, president of the American Farmers' Club, recently read a very important paper before that society on the subject of tuberculosis in domestic animals, and some of its effects on human health. He says that this disease prevails extensively among such animals all over the world, and especially in populous and crowded localities. Cows which are kept shut up in close, foul air, as is the case with large numbers in and about London, are very liable to it. He says that observations in Mexico have led to the conclusion that thirty-four per cent. of all beasts slaughtered there are more or less affected with this disease, and he is of opinion that fifty per cent. of the cows kept in large towns are thus diseased. The fact that this is not more generally recognized is of course owing to the animals being slaughtered before the disorder has attained any very noticeable development. According to Dr. Heath, if cows, like human beings, were allowed to die from natural causes, the proportion succumbing to tuberculosis would be quite as great, and probably much greater. — *London Medical Record*.

— M. Potain, at the recent meeting of the French Association for the Advancement of Science, read a paper on Milk Diet in Heart Disease. Milk diet is particularly efficacious in secondary cardiac affections, as hypertrophy or simple dilatation of a gastric or

renal origin. The diet modifies the condition of the kidney and the stomach, because it gives these organs almost complete rest; therefore, to be thoroughly efficacious it should be absolute and more or less prolonged. It may be usefully employed in cases of simple reflex palpitation, of gastric origin. It may also be advantageously used for its diuretic action in dropsy, especially, and perhaps exclusively, when the dropsy is of renal origin.

— M. Chereau, in a French medical journal, gives the following interesting history of the origin of the stethoscope:—

One day, as Laennec was crossing the court of the Louvre, he observed some children, who, with ears applied to the two extremities of a long beam, were transmitting reciprocally the light sound provoked by the stroke of the finger against the opposite end. In the intermediate space no sound was perceptible. The careful observer reflected, and soon, like Archimedes, he was able to exclaim, "I have found it!"

Some time afterward, in fact it was in 1816, being consulted for a young woman who presented general symptoms of heart disease, in which percussion gave small results on account of the stoutness of the subject, the age and sex of the patient forbidding his listening directly with the ear, he remembered the children of the court of the Louvre. Immediately he took a paper copy-book, of which he made a roll closely pressed together, placed one end of it upon the chest of the young woman, applied the other to his ear, and found with pleasure that in that manner he could perceive much more clearly the beats of the heart. So a play of children and regard for modesty were two facts which led to the discovery of medical auscultation.

— A case of complete transposition of viscera was recently observed in a young girl, aged seventeen, who died under the care of Dr. Dumont at the Hotel Dieu at Caen. At the autopsy, all the viscera, both thoracic and abdominal, though perfectly normal in form and structure, were completely transposed, those usually on the right being on the left side and *vice versa*. Their relative positions, however, were perfectly maintained, so that there was no interference with the functions.

— The fifth annual meeting of the American Academy of Medicine was held in Manning Hall, Brown University, Providence, R. I., on Tuesday last.

— The *North American Review* for October begins with a political article, which is followed by an article by Mr. Edison on the electric light. M. Charney continues his very interesting account of his researches in Central America; and articles on the Observance of the Sabbath, the Campaign of 1862, the Taxation of Church Property, the Recent Progress in Astronomy, make up the number.

— Recent investigations in Scotland on Hydrophobia show that in nearly every case the disease arose in "pet" animals.

— According to the *Record* a woman in Illinois recently gave birth to five children. All of them were alive at last accounts.

— Dr. J. Marion Sims has recently been decorated with the order of Leopold by the King of the Belgians. If we may believe the statement of an "interviewer" published in the *New York World*, it was obtained for him through the intercession of his daughter.

— Bologna has lately received a bequest from Professor Rizzoli of 250,000 francs to found an orthopaedic hospital. We had supposed the remarkably successful case of "Madame DacEn" had rendered any such institutions unnecessary.

— M. Ricord has lately been suffering from the clumsy operations of a "corn doctor." The operator's instrument penetrated the subjacent articulation, and at one time it was feared that amputation of the toe would be necessary. *La France médicale* is surprised at the imprudence of the great physician, who, it thinks, ought to know the great danger of selecting an unqualified party to look after one's extremities.

PHARMACEUTICAL NOTES.

— The oleo-resin of *Aspidium marginale*, *Schwartz*, a fern common in this country, closely allied to the official male fern, has been successfully used for tape-worm. It was given in three-gramme doses.

Miscellany.

HISTORY OF FIVE CASES OF INTERMITTENT FEVER THAT OCCURRED AT DROWNVILLE (BARRINGTON), R. I., AUGUST, 1880.

BY STEPHEN S. KEENE, M. D.

CASE I. A man, age sixty, English, good constitution, good health, never having had intermittent, in Rhode Island twenty years, residing at Drownville fourteen years, working a farm there, having been exposed to the night air, was surprised, on the 24th of August, by a chill, followed by fever and perspiration, the paroxysm lasting five or six hours.

On the 26th, two days later, a second paroxysm occurred, on the 28th a third, on the 30th a fourth, all presenting the same characteristics, and lasting the same period of time. He sent for me on the 1st of September, when I found him undergoing his fifth paroxysm of well-marked intermittent fever.

I ordered twenty grains of sulphate quinine, to be given two days later, one or two hours before the chill expected on 3d of September, with rest and nourishment. This was done, and the patient has had no more chills or fever, two weeks having transpired.

CASE II. A daughter of the first case, age eighteen, good constitution, good health, has never been out of Rhode Island, and has lived in the same house with the father fourteen years. Having been exposed to the night air, was seized, on the 25th August, with a chill, followed by fever and perspiration, the paroxysm being of the same character and duration as that of the first case.

On the 27th, two days later, a second paroxysm occurred, on the 29th a third, on the 31st a fourth, all having the same character and duration. Twenty grains of sulphate quinine was ordered, as in the first

case, with nourishment and quiet, and there has been no recurrence of the paroxysms.

Iron was directed to be taken a week after the disappearance of the paroxysms in each case.

Three more cases at Drownville, concerning whose history I made careful inquiry, and for whom I prescribed, presented the same characteristic phenomena as the first two.

Twelve cases occurring at Drownville have been reported to me, all having apparently the same type. The epidemic began about the middle of August.

The territory around Drownville is flat and marshy, bordering on Bullock's Cove, a shallow oyster pond, with extensive muddy shores at low tide; beside, the water in the neighboring ponds has been unusually low. This, with the unwonted heat of the season, may account for the advent of a disease quite familiar two degrees farther south.

At the brick-yard at Nyatt, one mile from Drownville, there have been ninety cases of a fever, apparently of the intermittent type. Similar cases have also occurred in the neighboring cottages along the shore at Nyatt.

There are extensive excavations at these brick-yards filled with rain-water, having no outlet.

This is the first time epidemic intermittent fever has been observed in Rhode Island, there being no record of it anterior to the present.

THE WHALE TENDON LIGATURE AS A SUBSTITUTE FOR LISTER'S CATGUT LIGATURE.

MR. EDITOR, — I have received recently from my friend, Dr. Leland, of Tokio, Japan, a little pamphlet upon the Whale Tendon Ligature, by T. Ishiguro, M. D., chief surgeon of the imperial Japanese army, and if the subject has not previously been brought to the notice of the readers of the JOURNAL I will ask you to allow me to make the following extracts, which I think will have something of interest for the surgical community.

The mode of preparing the ligature, he says, is as follows: "First, a whale's tendon is dissected by the points of needles, and teased out until the fibres look very like those of hemp. Secondly, the longest and finest fibres among them are selected, and they are then spun together as ordinary silk thread." The ligature so made was subjected to the following tests: "First, a weight of four pounds four ounces was suspended on a cord of one metre in length and 0.18 gramme in weight, but it was not broken." "Second, the ligature was boiled for seventy-two hours, and then kept at blood heat for five days, but only showed slight expansion or softening, without the least dissolution or loss of strength." "Third, the ligature was soaked in a solution of pepsin (two drachms), dilute hydrochloric acid (one drachm), and aqua (five ounces), and then kept at the temperature of the body for twenty hours, but showed not the least sign of dissolution." "Fourth, it was tested likewise by soaking in acetic acid and lactic acid (both in a diluted state) and also in liquor potassæ, in all of which cases the strength of the ligature was proved by like results." "Fifth, the first actual trial was made upon a patient in whom excision of the femur was necessary. In this case one of the ends of the ligature was cut off close to the knot, while the other was left hanging out of the

wound. After the lapse of seven days an examination was made, and it was found that not the least trace of the ligature was to be detected. Subsequent trials proved that three days after the application were quite sufficient for the full absorption of this ligature." Trials were then made as to the rapidity of its absorption, for "a too speedy absorption would cause secondary hæmorrhage." In the amputation of a leg the ligature was applied, and there was not the least manifestation of secondary hæmorrhage; a like success also followed in the ligature of the femoral artery.

In conclusion, Dr. Ishiguro says the merits of the ligature are the following: "First, it is the cheapest. Second, it is readily conveyed and preserved. Third, it is easily procurable. Taking these three points into consideration, and bearing in mind the strength which the ligature naturally possesses, and which can be still more increased by soaking it in carbolic oil, it may be concluded that it can be relied on to answer every purpose of a ligature and suture."

I will add that I am informed by Dr. Leland that a piece of the ligature six feet in length is worth from twelve to fifteen cents.

EDWARD O. OTIS, M. D.

OBITUARY.

JEREMIAH SPOFFORD, M. D., died recently, aged ninety-three. The funeral took place on Saturday last. Although a citizen of Groveland, the active years of his life were identified with Haverhill. From 1821 he was for many years editor and one of the proprietors of the *Haverhill Gazette*, having associated with him John G. Whittier. He was born in the portion of Rowley now Georgetown. He was forty-seven years a physician in Groveland, and was senior member of the Massachusetts Medical Society, having received a license in 1813, and becoming a member in 1817. He was also the oldest newspaper editor in Essex County. In early life he was a school-teacher, and ever retained a lively interest in education, and through life was given to literary pursuits. Till within a few weeks of his death he frequently contributed vigorous articles to several journals in the country upon the various subjects in which he had ever been interested, and thus kept up his connection with the moving world. He was the author of *Reminiscences of Seventy Years*, *Fifty Years in the Practice of Medicine*.

NOTES ON FASTING.

THE *Medical Press* has imbibed some pretty long yarns culled from American newspapers, from which it estimates that Tanner's profits amounted to considerably over one hundred thousand dollars. These may console him for his complete failure on the "lecture platform." He certainly needs all the consolation that can be given at the present time. The same journal gives an account of a similar fasting experiment made upon some horses in Paris in 1876:—

There was, indeed, this difference between the two cases: that the fast was forced upon the poor quadrupeds without their consent, and that there was a pretense of utility about the French experiment. The aim, as it was stated at the time, was to discover how

long horses could go without food, in the event of the scarcity which accompanies a state of siege. The following results were obtained from the inhuman experiment: (1.) It was proved beyond all doubt that a horse can hold out for twenty-five days without any solid nourishment, provided it is supplied with sufficient and good drinking-water. (2.) A horse can barely hold out five days without water. (3.) If a horse is well fed for ten days, but insufficiently provided with water throughout the same period, it will not outlive the eleventh day. One horse, from which water had been entirely withheld for three days, drank on the fourth day sixty litres of water within three minutes. A horse which received no solid nourishment for twelve days was nevertheless in a condition on the twelfth day of its fast to draw a load of two hundred and seventy-nine kilos.

UNUSUAL CASE OF ASCARIS.

AN exchange gives the following extraordinary statement taken from a French journal: In the year 1876, a lad, twelve years of age, exhibiting some symptoms of worms, some chopped garlic boiled in milk was administered to him, and in the course of the day he passed at different times fifty ascarides lumbricoides. He continued to pass more and more every day, so that he evacuated as many as six hundred in the same day, the worms being enveloped in a mucus resembling white of egg in appearance, and rolled up in a ball, separating themselves after their ejection. At first they were only passed by the anus, but in a short time they were expelled also by the mouth, and in the end exclusively by the latter. During five months he did not fail to discharge worms daily, generally from three hundred to four hundred. When Dr. Fauconneau-Dufresne first saw the boy, in July, 1878, he had passed fewer than for some time past, and he found him with a pale, puffed, and very emaciated face, eating much, but usually vomiting his food soon after he had taken it. Sometimes the worms were expelled with the food, but generally they were voided alone. The worms were discharged living, were five or six inches long, and about as broad as a quill. Besides the garlic, he had taken some pomegranate, and now castor-oil and calomel, together with occasional doses of garlic, were prescribed. This treatment produced a continuous diarrhoea; but he had a good appetite, passed fewer worms, and was able to go out, and even to school. Seen again in January, 1879, when Corsican moss was prescribed. The worms were passed less frequently during this month, and in smaller numbers, and almost always dead. During February the moss was continued, with occasional purgatives, and the worms were much fewer, and dead. In March and April both dead and living worms were discharged; and at the end of the latter month santonine and calomel were prescribed. These had to be suspended from time to time, but the number of worms kept continually diminishing, and from August, 1879, to May, 1880, none whatever had appeared. The total number of worms counted during the three years, and for the most part ejected by vomiting, was 5126; many more having also been passed without having been counted. The greatest number recorded by M. Duvaine amounted to 2500, which were passed in the course of five months.

THE NEED OF HOLIDAYS.

IN the course of his very able and interesting address, in the Medico-Psychological Section, at Cambridge, last week, Dr. Crichton Browne instanced, among the evidences of increased weakness and liability to the neurotic diseases and insanity, the fact that "annual holidays have become a necessity, instead of a luxury." It cannot be denied that, either from habit or necessity, the routine worker — whether "with what he is pleased to call his mind," or that lesser combination of the intellectual faculties by which the routine business of life is transacted — has come to look for a respite from his labors once a year as one of the essentials of existence. In the days when we were young this was not the way in which the annual holiday was regarded. Those who could afford it went out of town; but their object was pleasure, not "relief," still less "recuperation," in any serious sense. Most men worked harder, though generally in a more pleasurable way, during their vacation, than throughout the rest of the year. Now the jaded creature of oppressive and exacting circumstances crawls away to "rest." His plaintive desire is to get anywhere out of the din and turmoil and "worry" (that wondrous word) of the busy world, — far, "far from the madding crowd." There is something humiliating in all this. It is a feeble sort of human nature we seem to have inherited. We should like to see the question of causation fully and impartially discussed, in view of the abundantly evident fact that we have as a nation left off drinking sound-brewed ale and well-matured wines, and have taken to imbibing vast quantities of tea and coffee, weak, watery, and acid wines, rivers of mineral waters, real and factitious, and to eating for food the made dishes and flimsy compounds so common on the Continent. Were our grandfathers wholly wrong when they associated the courage and stature of the British shop-keeper with the roast beef and ale of old England? — *London Lancet*.

THE TREATMENT OF EMPYEMA.

ANTISEPTIC treatment of this disease is at present fashionable, but more has been claimed for the method than we think it deserves. We give the following contribution to the subject from the *Medical Times and Gazette* : —

Antiseptic surgery has done much to render success more certain, but the antiseptic dressing of an empyema and the insertion of a drainage-tube give trouble, and a simpler plan has been long a desideratum. The siphon trocar, as used by Dr. Douglas Powell and others, is sufficiently simple, but is open to the objection that if the chest is washed out after drawing off the pus, the same tube being used for both operations, septic matter is liable to enter and infect the pleural cavity. Most of Dr. Goltzdammer's cases were treated by incision under the spray and antiseptic dressing, resection of part of a rib being performed in several. The last case, however, to which he refers in his lecture was treated by a new method, recommended by Dr. Kashimura, assistant to Professor Baelz, of Tokio, Japan (*Berliner klin. Wochenschrift*, No. 3, 1880), and which is the simplest imaginable, consisting in puncturing and evacuating the pleural cavity, washing it out freely with an antiseptic liquid, and then allowing the

opening to close. The instrument (figured by Dr. Kashimura) consists of a canula provided with a stopcock, which closes its outer end after the withdrawal of the trocar, and with two lateral openings to which india-rubber tubes are attached with spring clamps, so that either can be closed or opened at pleasure. Before tapping, these tubes are filled with thymol-water and clamped. When the instrument has been introduced, the stopcock is closed, and one of the tubes, which dips into a vessel of thymol-water, is opened, and the pus allowed to escape. The first tube is then clamped, and the second, which communicates with an irrigator containing warm thymol-water, is opened, and the antiseptic allowed to enter the pleural cavity. It is then evacuated by the first tube, and the process is repeated until the wash-water returns uncolored. The canula is then withdrawn, and the opening closed. Of course the whole of the instrument is assumed to be thoroughly disinfected before use. The cases hitherto treated by this plan, though not numerous, are eminently satisfactory; all have recovered. Dr. Goltzdammer tapped a woman aged forty-one, in a state of great prostration, with an empyema of a month's standing, and removed seven hundred to eight hundred cubic centimetres of pus. About two litres of thymol-water were used to wash out the cavity. She was operated on on February 19, 1880; eight days afterwards all traces of the effusion had disappeared, and there was no return of it later on. The patient, who had entered the hospital with extreme cyanosis, and with orthopnoea, ascites, extensive anasarca, and slight albuminuria, as well as an unresolved pneumonia of the right base, to which the empyema was secondary, had entirely recovered, even to the restoration of clear percussion and vesicular breathing over the whole right side, on April 10th. It is needless to enlarge on such a result. A few years ago, however, we may remark in passing, it would have been considered miraculous. Now, thanks to the antiseptic method, whose beneficent effects are making themselves felt in every part of the field of surgery, we scarcely wonder at it. We recommend the special mode of its application above described to the attention and imitation of our readers.

ABSENCE OF UTERUS.

MR. EDITOR, — The following case came under my observation at the Kaitakushi Hospital at this place last week : —

Miss Kiku —, seventeen years of age, of medium height, small figure, breasts below the average of Japanese ladies in development, and very dark skin. Her lips and mucous surfaces were comparatively pale. Her gait and movements lacked the elasticity of youth. She came to the hospital to ascertain why she suffered so much when her lover approached her.

Two years since she allowed her lover to lie with her. At the attempted coition she suffered acute pain; the intromittent organ caused the flow of some blood, but the affair gave pleasure to neither party. Soon after she had a sore, which has been followed by constitutional symptoms. A few times the past spring she had been approached, and each attempt was accompanied by acute pain and deep chagrin on her part.

She had never menstruated; has had none of the symptoms which precede and accompany that function. Her mother is a strong, healthy woman. Her father

enjoyed good health. Her sister did not menstruate until seventeen years of age, and since then she has had a healthy child. Miss Kiku— suffers much from frontal headache, at times extending to the vertex (a malady very rare with the Japanese ladies); vague pains in the chest, especially at the apices. Her digestion has been excellent and the movements from the bowels regular. The urinary apparatus has performed its functions so as to attract no attention.

External examination: Abdomen regular in form and of normal contour. Walls thin, and giving no resistant sensations. The external genitals smaller than usual. The labia minora were out of proportion in size to the other external organs, and were more prominent than usual for the females of this country. The meatus urinarius was normal. The entrance to the vagina was limited, admitting only one finger, which finger, carried in less than two inches, was arrested by a wall. The finger could be swept around in this cul-de-sac, with a radius of about one inch. At the fundus no recession or projection could be felt; on the superior surface the line of the urethra could be made out. Pressing on the abdomen above the pubes, the bladder being empty, the finger in the vagina was easily felt, there being no intervening hard body. The fingers in the rectum could be freely moved about in the pelvic cavity and encountered no resisting body. They could be passed below and hooked back of the vaginal finger at the fundus, and the tips of these fingers could feel the silver sound in the bladder. By compound external and internal manipulations no solid bodies could be found in the pelvic cavity or lower portion of the abdomen. A rectal bivalve was introduced into the vagina. The rugæ of the external portion of the tube were normal in appearance. At the fundus, the walls had a yellow-white appearance. There was no projecting body. Near the centre of the fundus was a small dimple, but quite shallow.

The Japanese members of the staff have never seen, nor have they heard of, a similar case in Japan. Trusting the facts of the case may be of interest to some of your readers, I take the liberty of addressing you.

The "starvation and exposure case," the account of which I forwarded to you, has progressed finely. He has two fine stumps at the middle third of the legs, which are now consolidating. He goes about the ward on "all fours, smiling and happy. He has gained nearly twenty pounds in weight since he came to the hospital. Last week I rode through that swamp where he was lost, and the grass and young bamboo were so rank that from my horse I could not see over the tops.

J. C. CUTLER, M. D. Harv.

Consulting Physician to Colonial Department.

SAPPON, JAPAN, July 26, 1880.

INTERNATIONAL MEDICAL CONGRESS, SEVENTH SESSION.

We have the honor to inform you that at the close of the sixth session of the International Medical Congress, held last September in Amsterdam, under the presidency of Professor Donders, of Utrecht, a unanimous desire was expressed that the next meeting should take place in Great Britain in 1881.

This desire having been communicated to the presidents of the Royal Colleges of Physicians and Surgeons in London, they convened a meeting of delegates from the various universities, colleges, and other public bodies of the United Kingdom, including the principal medical societies, the British Medical Association, and the medical departments of the army, navy, and

India office, in order to obtain a thoroughly national representation of feeling and opinion.

The response to this appeal having been most cordial, it was decided at the meeting of delegates thus convened to comply with the wish expressed at the meeting at Amsterdam, and to hold the congress in London. A general committee of organization was appointed, an executive committee, and a reception committee, to carry out the necessary details.

In past years the International Medical Congress has met in the following cities: The first meeting took place in Paris in 1867; the congress next met in Florence in 1869; then in Vienna in 1873; in Brussels in 1875; in Geneva in 1877; and last year, 1879, the congress, as already stated, met in Amsterdam.

Her Majesty the Queen has most graciously given proof of her good-will towards the cause of medical science, and our efforts in its furtherance, by authorizing us to place the congress under her royal patronage.

His Royal Highness the Prince of Wales has likewise shown the unvarying interest he takes in the progress of medicine by according a similar favor.

The work of the congress will be carried on in fifteen sections. The days of the meeting will extend from Wednesday, the 3d, to Tuesday, the 9th, of August, both days included. A reception of welcome will take place on the evening of August 2d.

The meetings will be chiefly held in the halls of the University of London and in Burlington House, where in a most liberal manner the use of rooms for the general and sectional meetings has been granted to the congress by the authorities of the University of London, the Royal Society, the Society of Antiquaries, the Astronomical Society, the Linnean Society, the Chemical Society, and the Geological Society.

There will be a museum open during the meeting, to which contributions of professional interest will be made. Evening receptions will be held, and excursions arranged to various places of interest.

The attendance of our countrymen from all parts of the United Kingdom, India, and the Colonies will probably be large, and various circumstances make it probable that a large number of distinguished men from many countries will be attracted to England as our guests on the occasion of the seventh session of the congress, and it is our desire to receive them with all cordiality and honor.

It is convenient to inform our colleagues abroad that ladies will be invited to the social and ceremonial meetings of the congress, but will not be admitted to its business meetings.

It will be necessary for all who wish to make communications to the congress to intimate their intentions to the secretaries of the several sections, and to furnish an abstract of their papers before the 30th of April, when the committee hope to complete the arrangements for the meeting, and to issue a programme of the business.

J. RISDON BENNETT,
Chairman of the Executive Committee.
WILLIAM MAC CORMAC, Secretary-General.

The list of sections and officers, so far as at present arranged, accompanies this circular.

The editors of medical journals and periodicals are requested to assist the committee in making public the character and scope of the International Medical Congress of 1881.

All communications respecting the congress should be addressed to William Mac Cormac, Esq., Honorable Secretary-General, 13 Harley Street, London, W.

Executive Committee: Dr. Risdon Bennett, LL. D., F. R. S., president of the Royal College of Physicians, London, chairman; W. Bowman, Esq., F. R. S., Dr. Alfred Carpenter, Dr. Andrew Clark, Dr. Matthews Duncan, LL. D., F. R. S. E., J. E. Erichsen, Esq., president of the Royal College of Surgeons, England, F. R. S., Sir William Gull, Bart., M. D., D. C. L., F. R. S., Prescott Hewett, Esq., F. R. S., Luther Holden, Esq., Jonathan Hutchinson, Esq., Sir W. Jenner, Bart., K. C. B., M. D., D. C. L., F. R. S., Professor Lister, D. C. L., LL. D., F. R. S., W. Mac Cormac, Esq., A. O. Mackellar, Esq., Sir James Paget, Bart., LL. D., D. C. L., F. R. S., Dr. Pitman, George Pollock, Esq., Dr. Shepherd, Dr. Sieveking, Dr. Pre-Smith, Sir Henry Thompson, Dr. Hermann Weber.

Reception Committee: Prescott Hewett, Esq., F. R. S., chairman; Professor John Marshall, F. R. S., vice-chairman; Dr. Chepwell, Dr. Andrew Clark, Dr. Farquharson, M. P., J. Cooper Forster, Esq., Dr. Philip Frank, Dr. Grigg, Ernest Hart, Esq., Mitchell Henry, Esq., F. R. C. S., M. P., Dr. George Johnson, F. R. S., Sir Trevor Lawrence, Bart., M. R. C. S., M. P., Dr. Lyons, M. P., Dr. Monro, Dr. W. O. Priestley, Dr. Owen Rees, F. R. S., Sir Henry Thompson, Dr. A. Vintras, Dr. Sharkey, secretary, Dr. Samuel West, secretary.

LONDON, September, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 18, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Lung Diseases.	Typhoid Fever.
New York.....	1,085,000	533	232	25.89	14.26	6.94	9.57	1.88
Philadelphia.....	901,380	261	91	—	—	3.07	1.15	3.83
Brooklyn.....	564,400	247	116	28.74	10.93	11.34	9.72	.40
Chicago.....	—	189	100	35.98	11.11	16.40	7.41	2.12
St. Louis.....	—	140	51	27.14	12.14	.71	5.00	6.43
Baltimore.....	393,796	139	48	33.81	12.23	7.20	3.59	5.04
Boston.....	363,938	177	86	39.55	30.00	6.21	3.96	1.70
Cincinnati.....	280,000	85	37	22.35	11.77	3.53	4.71	2.35
New Orleans.....	210,000	127	46	22.83	3.94	.79	5.51	—
District of Columbia.....	170,000	84	38	29.76	5.95	8.33	10.71	1.19
Buffalo.....	—	60	29	41.67	16.67	10.00	5.00	8.33
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	61	21	49.18	9.84	16.39	4.92	19.68
Milwaukee.....	127,000	37	22	29.73	18.92	10.81	5.41	—
Providence.....	104,862	27	13	37.04	14.81	7.40	7.40	1.11
New Haven.....	60,000	13	5	15.38	—	15.38	7.69	—
Charleston.....	57,000	30	11	10.00	3.33	—	10.00	3.33
Nashville.....	37,000	12	3	41.67	16.67	—	—	8.33
Lowell.....	59,340	26	16	50.00	34.62	—	—	11.54
Worcester.....	58,040	23	11	47.83	34.78	—	—	8.69
Cambridge.....	52,860	17	7	17.65	17.65	—	5.88	—
Fall River.....	48,626	24	18	12.50	4.17	4.17	8.33	—
Lawrence.....	39,068	15	5	20.00	13.33	—	13.33	6.67
Lynn.....	38,376	11	4	27.27	18.18	9.09	—	—
Springfield.....	33,536	18	7	5.56	5.56	—	1.11	—
Salem.....	27,347	14	5	42.86	14.29	7.15	—	7.15
New Bedford.....	27,268	6	3	33.33	16.67	—	—	—
Somerville.....	24,964	6	3	—	—	—	—	—
Holyoke.....	21,961	10	9	40.00	30.00	—	10.00	—
Chelsea.....	21,780	15	9	60.00	33.33	13.33	—	6.67
Taunton.....	21,145	5	1	—	—	—	—	—
Gloucester.....	19,288	7	5	—	—	—	—	—
Haverhill.....	18,478	6	3	33.33	33.33	—	—	—
Newton.....	16,994	8	3	37.50	12.50	25.00	—	—
Newburyport.....	13,470	1	1	100.00	—	100.00	—	—
Fitchburg.....	12,270	5	3	60.00	40.00	—	—	20.00
Eighteen Massachusetts towns....	143,481	43	17	27.91	18.60	2.33	4.65	4.65

Deaths reported, 2482; 1079 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fever) 699, consumption 384, diarrhoeal diseases 311, diphtheria and croup 170, lung diseases 153, typhoid fever 80, malarial fevers 69, scarlet fever 29, whooping-cough 18, small-pox seven, measles five, cerebro-spinal meningitis five, erysipelas five. From *malarial fevers*, New Orleans 23, District of Columbia 11, St. Louis ten, Brooklyn eight, New York six, Chicago, Baltimore, Nashville, and Salem two, Buffalo, Charleston, and Fall River one. From *scarlet fever*, Baltimore six, New York and Brooklyn five, Chicago four, Philadelphia three, Cincinnati two, Buffalo, Pittsburgh, Providence, and New Bedford one. From *whooping-cough*, Baltimore four, Chicago three, Brooklyn, Boston, and Cincinnati two, New York, District of Columbia, Buffalo, Lowell, and Chelsea one. From *small-pox*, Philadelphia six, Chicago one. From *measles*, New York three, Chicago and Buffalo one. From *cerebro-spinal meningitis*, Philadelphia, St. Louis, Baltimore, Worcester, and Pittsfield one. From *erysipelas*, Philadelphia, Chicago, Boston, Pittsburgh, and Holyoke one.

Fifty-three cases of diphtheria, 22 of scarlet fever, four of whooping-cough, and four of typhoid fever were reported in Brooklyn; diphtheria 22, scarlet fever seven, in Boston; diphtheria 17, scarlet fever nine, in Milwaukee; scarlet fever 15, diphtheria six, typhoid fever three, measles two, diarrhoeal diseases one, in Providence; scarlet fever five, diphtheria one, in New Bedford.

In 37 cities and towns of Massachusetts, with a population of 1,062,230 (population of the State 1,783,812), the total death-rate for the week was 21.51 against 22.05 and 25.09 for the previous two weeks.

Total deaths, deaths under five years, and deaths from diarrhoeal diseases slightly diminished.

For the week ending August 28th, in 148 German cities and towns, with an estimated population of 7,707,212, the death-rate was 29.7. Deaths reported, 3406; 2785 under five: pulmonary consumption 434, acute diseases of the respiratory organs 182, diphtheria and croup 88, scarlet fever 95, whooping-cough 62, typhoid fever 50, measles and röteln 32, puerperal fever 11, small-pox (Königsberg three, Görlitz one) four, typhus fever (Dortmund) one. The death-rates ranged from 16.1 in Wiesbaden to 44.7 in Frankfort-on-the-Oder; Königsberg 32.8; Breslau 36.6; Munich 28.4; Dresden 30.2; Berlin 31.3; Leipzig 32.4; Hamburg 27.6; Hanover 27.4; Bremen 21; Cologne 40; Frankfort 21.6; Strasburg 25.1.

For the week ending September 4th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.6. Deaths reported, 3534: diarrhoea 853, acute diseases of the respiratory organs 152, scarlet fever 93, whooping-cough 70, fever 51, measles 28, diphtheria 20, small-pox (London) five. The death-rates ranged from 19 in Plymouth and Oldham to 38 in Sunderland and Leicester; London 20.8; Liverpool 34; Birmingham 23; Manchester 27; Bristol 22. In Edinburgh 20; Glasgow 20; Dublin 36.

In the 20 chief towns in Switzerland for the week ending September 4th, population 522,856, there were 43 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 13, typhoid fever 11, diphtheria and croup six.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Sept. 12	30.137	63	77	54	76	60	68	68	0	E	SW	0	9	11	H	C	C	—	—
" 13	29.915	65	77	56	82	51	72	68	SW	S	NW	8	8	7	F	C	R	—	.08
" 14	29.801	57	58	54	94	88	81	88	NW	NW	NW	8	8	17	C	R	C	—	.72
" 15	29.771	56	61	52	93	77	87	86	W	E	NE	8	3	3	R	C	F	—	—
" 16	29.840	62	71	51	87	61	77	75	W	W	W	6	11	3	F	F	F	—	—
" 17	29.958	67	81	55	76	36	74	62	W	W	W	4	11	5	C	F	F	—	—
" 18	30.076	63	71	59	72	60	82	71	SW	E	E	3	12	5	C	F	C	—	—
Week.	29.928	62	81	51				74	W									13.54	.80

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 18, 1880, TO SEPTEMBER 24, 1880.

WINNE, C. K., captain and assistant surgeon. Relieved from duty at Fort Brady, Michigan, and assigned to duty as post surgeon at Fort Schuyler, New York harbor. S. O. 167, Department of the East, September 21, 1880.

REED, W., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Ontario, New York. S. O. 167, C. S., Department of the East.

RICHARD, CHARLES, first lieutenant and assistant surgeon. Relieved from duty at Fort Snelling, Minn., and assigned to duty as post surgeon at Fort Maginnis, Montana Territory. S. O. 110, Department of Dakota, September 15, 1880.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held in the Medical Library rooms, 19 Boylston Place, on the first Thursday of October, at 10.30 A. M. Paper by H. O. Marcy, M. D., on the Evil Results which sometimes follow the Operation for Laceration of the Cervix. The profession are invited.

HENRY M. FIELD, M. D., *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held on Monday evening next, at eight o'clock, in the hall of the Medical Library Association. Reader, Dr. Dunn.

A. T. CABOT, *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears. Part I. By Thomas F. Rumbold, M. D. St. Louis: George O. Rumbold & Co. 1880.

Subjects for Master's Degree in Harvard College 1655-1791. Translated and arranged, with an Introduction and Notes, by Edward J. Young. Cambridge: John Wilson and Son. 1880.

A Treatise on the Practice of Medicine for the Use of Students and Practitioners. By Roberts Bartholow, M. D. New York: D. Appleton & Co. 1880.

The Official Gazette of the United States Patent Office, containing the Patents, Trademarks, Designs, and Labels. 1880.

Twenty-Fifth Annual Report upon the Births, Marriages, and Deaths in the City of Providence for the Year 1879. By Edwin M. Snow, M. D.

Archiv für pathologische Anatomie und Physiologie und für klinische Medicin. Herausgegeben von Rudolf Virchow. Achtzigsten Bandes drittes Heft; Einundachtzigsten Bandes erstes Heft. (From the Smithsonian Institution.)

A Directory of the Charitable and Beneficent Organizations of Boston, together with Legal Suggestions, Health Hints, Suggestion to Visitors. Prepared by the Associated Charities. Boston: A. Williams & Co. 1880.

On the Bile, Jaundice, and Bilious Diseases. By J. Wickham Legg, F. R. C. P. New York: D. Appleton & Co. 1880.

Iritis: Diagnosis and Treatment. By Charles A. Oliver, M. D. (Reprint.)

Bidrag till Utredning af Fragan om den kroupösa Pneumoniens verkliga orsaker och profylax. Af Med. Dr. Fredrik Eklund. Stockholm. 1880.

Den miasmatiskt-kontagiösa Lungsotens och den kroniska Lunginflammationens verkliga orsaker och medlen att förebygga dem, i största korthet framställda. Af Med. Dr. Fredrik Eklund.

Myopia in its Various Phases. By Julian J. Chisolm, M. D. (Reprint.)

Sanitary Tract No. 3. On the Evils of the present Privy System. Issued by the Sanitary Association of Lynn.

A Case of Fracture of the Nasal Bones treated by an Improved Method. By Lewis D. Mason, M. D. (Reprint.)

An Improved Method of treating Depressed Fractures of the Nasal Bones. Lewis D. Mason, M. D. (Reprint.)

The Foramina of Monro: Some Questions of Anatomical History. By Burt G. Wilder, M. D. (Reprint.)

First Decennial Report of the Manhattan Eye and Ear Hospital, New York.

Pilocarpin in Intermittent Fever. By Gaspar Griswold, M. D. (Reprint.)

Lectures.

CLINICAL LECTURE ON SOME OF THE RESULTS OF EXTENSIVE LACERATION OF THE CERVIX UTERI.¹

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY PROFESSOR T. GAILLARD THOMAS, M. D.

CASE I. CHRONIC OVARITIS, DUE, APPARENTLY, TO LACERATION OF THE CERVIX, BUT UNRELIEVED BY AN OPERATION FOR THE CURE OF THE LATTER.

GENTLEMEN, — The first patient whom I bring before you to-day is Margaret A., a native of the United States, and thirty-two years of age. She has been married ten years, and has had three children and one miscarriage. Her last pregnancy was four years ago, at which time her youngest child was born, the miscarriage having occurred before that. Let us now get at the history of the case.

How long have you been sick?

"Four years."

Then you have never been well since the birth of your last child?

"No."

Had you any special trouble in your labor when this child was born?

"No."

In what way have you suffered?

"With pain all through my body."

Where do you feel the pain most severely?

"In the lower part of the bowels and down the limbs."

What else troubles you?

"My head."

In what way?

"I have such severe pain in it that my eyesight is often affected."

What else do you suffer from?

"That is all."

Are you regular in your monthly sickness?

"The flow is too profuse."

How long does it usually last?

"Five or six days, and I lose a great deal every time."

Do you have much pain also at this time?

"Yes, I suffer a great deal."

At what time in the period does the pain come on?

"Before the flow."

How long before?

"About a week."

Do you suffer more before the flow makes its appearance or after it commences to come?

"Before the flow comes."

Do you have much backache?

"Yes."

And is it increased at this time?

"Yes, very much."

Do you have the whites?

"Yes."

Does your bladder give you any trouble?

"Not often."

Do you have any trouble with your bowels?

"Constipation."

¹ Reported by P. Brynberg Porter, M. D.

This is a very straightforward history. The patient was quite well up to four years ago, when she gave birth to her last child, and as she has never been well since it would seem evident that something must have occurred at that time which has seriously interfered with her health. She appears to be very weak, her countenance indicates that she is a constant sufferer, and she herself has told us that she has pains all over her. Her general condition is undoubtedly very much depreciated, and it is therefore incumbent on us to find out what it is that has so impaired her health. Among the special symptoms here you will remember the headache, so severe that it often interferes with vision, and an ante-menstrual pain (coming on a week before the catamenia), which is much more severe than that during the actual flow. There is also one point about the case to which the patient has not alluded in the account that she has given of herself, but which is one of considerable importance. Some time ago she applied at one of the hospitals of this city for relief from the very same symptoms of which she complains to-day. On making an examination, the surgeon in charge discovered a very bad laceration of the cervix, with marked eversion of the lips. Believing that this was the primary cause of all her trouble, he very properly performed an operation for the repair of the cervix, and it was such a complete success that to-day it is scarcely possible to see that anything has ever been the matter with it, unless a very critical examination is made of the part.

The fact unfortunately remains, however, that, notwithstanding this successful operation, the patient is certainly no better than she was before it, and she even thinks that she is not so well. Yet the gentleman who had charge of the case did perfectly right, and acted precisely as I would have done, and, indeed, have often actually done, under the circumstances. But suppose now that this patient had been a lady of wealth and influence in the community, and had applied to any one of you for treatment. You would probably have told her that you could offer her an excellent prospect of recovery if she would have the laceration of the cervix operated upon. Yet when the operation had been performed she would have been just as bad off as before, and it is altogether possible that some unpleasant reflections might have been made upon your skill as a practitioner. The point that I wish to impress upon you here is that in cases such as this you must never promise too much to your patient. It is always safest to say to her that while the operation upon the cervix offers her the best chance of relief, and it is quite probable that it will result in her complete recovery, it is not impossible that it may do no good whatever, so far as the relief of her symptoms is concerned. You will thus have protected yourself, and prevented misunderstanding on the part of your patient, in case relief is not afforded, as sometimes happens. In the present instance, as has been mentioned, the patient thinks she is even worse than she was before the operation, but it is altogether probable that this is not really the case. I will now show you why it was a perfectly justifiable operation, and, indeed, one that was apparently strongly demanded.

When a vaginal examination is made in this case, a distinct mass is felt behind the cervix, and hence it has been supposed by some that have seen the patient that she was suffering from retroflexion. When conjoined manipulation is resorted to, however, it is found that

the *fundus* is in its normal position, and hence the idea of retroflexion must be excluded. But to make the matter doubly sure, I had the patient placed in Sims's position and introduced the uterine probe, when it passed up for three inches in the natural curve of the organ. Then, while the probe was still in the uterus, I passed my finger back of the cervix and ascertained that the same mass could still be felt there. When investigated more carefully, it was found to consist of two distinct parts, one on either side, and there was extreme sensitiveness not only of the masses themselves, but also of the tissues around them. In order to discover whether they were movable and distinct from the uterus, I placed two fingers between them and the cervix, and, pushing them up with one finger, I found that they were distinct. The diagnosis is, then, chronic ovariitis, with prolapse of the ovaries into Douglas's cul-de-sac. As I have before remarked, the term *chronic ovariitis* is a very unsatisfactory one, but with our present knowledge it is the best that we have to indicate chronic engorgement and hyperplasia of the ovaries, with not infrequently the presence in them of a large number of small cysts. Here the ovaries are about the size of an English walnut.

Possibly some of you may doubt the correctness of this diagnosis; and so, although no diagnosis is perhaps absolutely certain unless we can actually see the part that is affected, I will endeavor to prove it to you. In the first place, we have the presence of these two abnormal masses behind the uterus. Secondly, they are exquisitely sensitive, and the neighboring parts in the pelvis are also sensitive. Thirdly, there is a sinking sensation on the part of the patient when pressure is made upon them. She almost fainted away when the examination was made. Fourthly, the absence of signs of fibroid. These are the physical signs. Let us now glance at the rational ones.

In the first place, why does she suffer so acutely a week before menstruation begins? Because she is the subject of painful ovulation, rather than of painful menstruation. In the second place, she suffers from very marked nervous derangement, as indicated by the severe headache, the chills, and other neurotic troubles to which she is subject; and which she would not have if these masses behind the uterus were accumulations of inflammatory lymph, for instance.

But what, you may ask, has the laceration of the cervix had to do with all this? You will almost constantly find that where the cervix is lacerated badly the reflex irritation due to it results in disordered circulation, innervation, and nutrition in the pelvic tissues, and that, consequently, the ovaries become more or less involved. It is also a fact that where this is the case these organs very frequently become restored to their natural condition after the laceration of the cervix has been remedied by operative procedure. But although this is the rule, there are, unfortunately, many exceptions to it; and hence, as I have previously suggested, we should never be too confident of a successful result in such cases, and always qualify whatever prospect of relief we hold out to the patient with the possibility of failure. Again, therefore, I would warn you against promising too much in the condition known as chronic ovariitis, even when it is apparently dependent upon a laceration of the cervix. In such cases it is always well to take the position of the dentist when he is called upon to treat a facial or supra-orbital neuralgia, which has, indeed, had its origin in a carious tooth,

but which may perhaps have existed for ten years. He may treat the tooth itself successfully; but the nerve beyond may have at length become permanently affected, and hence the patient will continue to suffer as before.

I need not say much about the course of treatment that is now to be adopted in the patient before us, as I have so frequently and so recently spoken upon the subject. I will only suggest, in dismissing the case, that she should have a very full diet and appropriate tonics, and, indeed, that her system should be built up by every possible means. She should have complete freedom from all burdensome occupation, and should seek a change of scene and air, if it is in her power. In the winter season I not infrequently get very excellent results by sending patients suffering from chronic ovariitis to the milder climate of South Carolina, Florida, or Bermuda; where they should ordinarily remain for the months of February, March, and April. In addition, counter-irritation should be kept up by means of the use of tincture of iodine, and a prolonged course of electricity should be tried. Will such a plan of treatment cure this patient? I should certainly not be willing to promise that it will; but, at all events, it is the best with which I am acquainted that offers her a chance of recovery or relief.

To-day a wealthy lady came to my office whom I had not seen for two years. At that time I found that there was anteversion of the uterus, and at the same time chronic ovariitis. I frankly told her that I could at once restore the uterus to its normal position, but that I would not promise to give her relief from her sufferings, on account of the poor prospect of treating the diseased ovaries successfully.

So when I made an examination in her case again to-day, I found, indeed, that the uterus was perfectly in position, but that the ovaries were in the same condition as before; that is, inflamed, enlarged, and down in Douglas's cul-de-sac, just as those of the present patient are. During all this time, she told me, she had continued to suffer in the same way as before she had consulted me. But she did not think for a moment of casting any reflections upon my skill as a gynecologist, for the reason that I had frankly warned her that I feared that little could be done for the relief of her suffering. This, I assure you, is the only way to retain the confidence of this class of patients, whose cases, unfortunately, are at best very unsatisfactory ones to treat.

HABITUAL MISCARRIAGE DUE TO LACERATION AND EVERSION OF THE CERVIX UTERI.

CASE II. The next patient is Catharine P., born in Ireland, and thirty-five years old. She has been married twelve years, and has had five children and five miscarriages. Three of these miscarriages have occurred within the past year, and yet she looks like a perfectly healthy woman. She comes to us not because she is suffering very much, but in order to find out why it is that she should have these repeated miscarriages. Let us question her a little more particularly in regard to her condition and history.

You do not feel sick at all, do you, Mrs. P.?

"No, except that I am rather weak."

How long is it since you had your last miscarriage?

"Two months."

Is there anything else the matter with you besides this weakness of which you speak?

"I have a discharge."

A bloody one?

"It is blood mixed with matter."

Is there anything else that you complain of?

"I am subject to diarrhoea."

How long have you had it?

"For four or five years."

What else?

"I have a pain sometimes in my right side, around the hip."

Anything else?

"No."

With regard to the tendency to diarrhoea mentioned we need not now concern ourselves; but we desire to pay special attention to the repeated miscarriages, on account of which the patient has come here to consult us. In the first place, I would remark, then, that the only possible way to put a stop to habitual miscarrying like this is to discover the *cause* of the trouble, and treat that. What, we next ask, are the most prominent causes of this? Some of them are entirely local, while others are general. Some, I may mention, do not concern the mother, nor yet the fœtus itself, but the secundines alone. Of all the causes of habitual miscarriages, however, syphilis (either in the mother or father, or both, and either in the secondary or tertiary form) is perhaps the most frequent. In every case where a patient has aborted a number of times in succession you must make a very careful examination to see whether this disease may be present. When this is the cause of the miscarriages the fœtus dies early.

Among the other more common causes of abortion are affections of the chorion, like hydatids, and dropsy of the amnion. When the latter exists, the serous cavities of the child, as well as the placenta, are apt to be affected in the same manner. Not infrequently the cause is associated with the uterus itself. Thus, the organ may remain in its normal position until the third or fourth month, and then retroflexion, for instance, may take place. When this is the case it will usually be found that the displacement existed before the pregnancy commenced. None of the above causes are found in the present case, but an examination per vaginam reveals the existence of quite a prominent cause of habitual miscarriages, which has not as yet been mentioned. This is extensive laceration of the cervix uteri, with eversion of its lips. It is not difficult to see why this should be so when we remember that in this condition the nerves of the part are completely exposed to every sort of irritation. It is an undoubted fact, however, that many women go to full term, notwithstanding an aggravated laceration and eversion of the cervix.

Having found this condition of affairs present here, and there being apparently no other cause for the miscarriages that have been noted, I would advise that an operation for the repair of the cervix should be undertaken as soon as possible. If this should not put a stop to the constantly recurring miscarriages, we would be forced to look for some other cause of the trouble; but, at all events, such an operation would undoubtedly relieve the bloody leucorrhœa, as well as others of the symptoms of which the patient complains. It is never safe to promise too much in cases of this kind, as disappointment is so common; and all that you can tell your patient is that you will give her the best possible chance that you can of giving birth to children at full term.

Original Articles.

ON SUBSTITUTES FOR ADHESIVE PLASTER.¹

BY ADDINELL HEWSON, A. M., M. D.

I HAVE the authority of one of the most zealous and truthful recorders of facts in his day and generation for the assertion, which he had heard made at the beginning of this century by the greatest American authority on surgery at that time, which assertion was that "one might as well attempt to improve, on the Bible as to attempt to improve on the machine-spread adhesive plaster then made." This plaster was the *emp. resina* (of the London and United States Pharmacopœias), the *empl. lethargynæ resina* (of the Dublin), and the *empl. resinosum* (of the Edinburgh), either of which was well spread on linen cloth ready for use, requiring mere cutting into strips of the desired length and width and heating by the contact of its free surface with that of a heated body,—a bottle or tin can filled with boiling water. The basis of all these plaster compounds was that of the officinal lead plaster of all the pharmacopœias, with the addition in each of resin in varying proportions: thus, of one to five (Edinburgh), of one to six (United States and London), and of one to seven (Dublin). The resin used is the residuum after the distillation of the volatile oil of turpentine from various species of *pinus* and *abies*, and the purpose of its addition is to make the *emp. plumbi* more adhesive. It at the same time makes a more brittle plaster, which, in cold weather, is not desirable; hence another addition of the *emp. saponis* compos. in the Dublin Pharmacopœia was made, consisting of equal parts of soap plaster, letharge plaster, and resin. The frequent occurrence of erythema and erysipelas as well as suppurative inflammation with the use of any one of these plasters led many to recognize long since the presence of the resin as a source of such mischiefs. Thus Boynton, who has immortalized himself by his method of treating varicose and other forms of ulceration of the limbs by strapping, early abandoned the use of any one of these plasters, and had one made containing six drachms of resin to the pound of lead, the smallest amount of resin which he found could be used to make a sufficiently adhesive plaster. Yet with such a composition unfavorable cases did occur even in Boynton's hands, and it would seem that even he was compelled to accede to Physic's dictum, at least as to the essential ingredients of the sticking-plaster. Indeed, it would seem that the ingredients considered essential for such a plaster were always the same, not only in Physic's day, but as long a time before as since, for I find them in the formulæ of all the old thesauri of the last century as well as in those of the modern pharmacopœia. The defect was nevertheless recognized, and some attempts were made, unsuccessfully, to remedy it; and yet at the present time it is not recognized by the majority, by such even as Professor Lister himself, for he uses seven parts of resin to five of paraffine and one of carbolic acid for impregnating the cotton cloth with which he envelopes a wound in his antiseptic dressing.

It is hardly necessary for me to cite any facts to sustain the assertion that all forms of products from turpentine are capable of exciting erythema and erysipelas in the skins of some individuals. I do not sup-

¹ Read before the Academy of Surgery, Philadelphia.

pose there is a gentleman here who is not familiar with such. Yet all are probably likely to accept the fact that no good sticking-plaster has been made without the resin, and to accept of Physic's dictum that there is no use in trying to improve on what we have so long been using. Nevertheless, if the attempts and experiences of so long a period should forbid any more efforts to improve our adhesive plaster, they do not forbid our searching for *substitutes* for the article. You may all be willing to admit that any improvement in the article is impossible, and yet be glad to get another article which will do better in being free from its defects.

Those of us here to-night who were in the profession or engaged in its study at the time can readily recall the excitement with which the announcement came from Boston that Dr. J. Parkers Maynard had then (in 1848) discovered a most admirable substitute for adhesive plaster. It was a solution of gun-cotton in sulphuric ether, to which he gave the name of collodion. The announcement of the discovery was no sooner made, however, than we had the declaration of its complete failure for its original purpose, and of its application to a branch of science which could never have been developed to its present state of perfection without its existence, namely, photography.

About that time the late Dr. Paul B. Goddard called me, one day, into his office, which adjoined my father's, on Walnut Street, above Ninth, and said, with great zest, "I have got the way of using collodion for sticking-plaster." This, as he then showed me, consisted of strips of Donna Maria gauze, a silk texture, cut lengthwise of the cloth, of the desired width, and of a length some two or more inches in excess of what would be needed to cover the part; this latter expedient was to facilitate traction in making the applications. The application was made by painting some collodion on a part of the skin surface near to the wound, and in the remotest direction from which the traction was to be made; the gauze was then laid on this layer of collodion, and held gently in that position until the collodion had dried; then such traction could be made with the free portion of the gauze across the wound, the edges of which were held well adjusted by an assistant; in this position the collodion was painted through the meshes of the gauze, at the near end, beginning where the surgeon's fingers pressed it on the surface, and carrying the painting as near as was desirable to the wound; this expedient not only effected neat coaptation of the lips of the wound, but also allowed such to be visible, and at the same time secured the inner surfaces of the wound in thorough contact with each other. Nothing, it seemed to me, could be more desirable than this application, then made in the neat and dexterous manner of its inventor, and I confess boldly that I have never since then been without a bottle of collodion and some gauze to use as emergency might arise, never varying Goddard's dressing other than to substitute tarlatan for the more expensive silk gauze. With it I have been able to make most thorough coaptations of extensive scalp wounds and of stumps of major amputations, and that, too, without sutures.

I was not fully satisfied by the collodion employed by Goddard's dressing when I first saw it. What gave me very great satisfaction was his mode of using the collodion. I was conscious of the brittleness of the collodion when dry, and that it contracted too

much, and so readily peeled off. To meet these objections to collodion as an adhesive agent, we had soon, however, the first thing proposed, namely, the addition of a few drops of volatile or terebinthinate oils. Then we had cases of erysipelas occurring from its use, and found our last state no better than our first. On learning that this addition was being made to the collodion of our market I took the precaution ever afterwards to get an article entirely free from such an ingredient, and so have had my collodion clean, and have used it without fear. My enthusiasm for Goddard's method was, however, such as not to let me be satisfied here. I have, indeed, for the last thirty years been in search of something that could be applied by the gauze, and be free from all the defects of adhesive plaster, varnishes, and collodion.¹ During part of that time I had the assistance of the practical skill of our famous pharmacist, Mr. O. S. Hubbell, but I never got anything better than collodion as the adhesive agent until quite recently, when the frames on the sidewalks of our chief thoroughfares, suspending a piece of mended china, with heavy weights attached, arrested my attention: first, by the frame resembling somewhat that used in surgery for making traction and extension with, and then, secondly, to learn what such an agent might be, and whether such might not suit all our wants for a sticking-plaster. I was then not long in learning that the chief ingredients of such compound were probably acetic acid or nitric acid and common glue. Experiments with these, as well as some with mixtures of aldehyde, dilute acetic acid, and isinglass or fish glue, soon satisfied me that we had in these the long-sought-for material. Of all of them I have found the simple mixture of common glue one part and officinal (twenty-five per cent.) acetic acid four parts to be the best in every respect.² It dries with quickness, not requiring more than three minutes, and has a tenacity equal to two pounds to every square inch, so that in illustration of its value I may refer to an application of it to maintain the long strips of the extension dressing for fracture of the thigh. This can be made by securing only seven inches on each side of the knee of the material (linen or cotton, cut two inches wide). This will, when dry, resist the weight of over fifty pounds attached to the extending cord, and such weight can be applied as soon as the dressing is completely adjusted. (A demonstration of this was then made by Dr. Hewson.) I have also had ample proof of the persistency with which the article can hold its place in other instances; thus, I have applied strips of gauze and of cotton cloth with it to my forearm, and they have been retained for four or more days in their places. The glue not being soluble under a temperature of hot water, and softening and swelling only after exposure to cold water for some length of time, my daily plunge bath in cold water did not disturb them in the least. This and demonstrating their tenacity by strong traction, frequently made before friends

¹ Various preparations were then exhibited by Dr. Hewson, namely, solutions of silicate of soda and of sulphate of alumina, twenty years old, showing a remarkable state of preservation, solution of sandrac in ether and of rubber in benzine. Then there were preparations of more recent date, those of salicylic acid in collodion of various strengths, and of shellac and nitric acid.

² Numbers of these preparations were here shown, and Dr. Hewson demonstrated the reasons for his preference, and amongst the latter for the strength (full) of the acid and its proportion (four to one) of the glue, the full strength allowing of most rapid drying, and the proportion, four to one, of glue making the most fluid solution which would dry the quickest. There were eight of these which he had been using since August.

in the course of these days, have tested it as severely as any fair questioner might require. The facility and quickness of this drying is easily to be demonstrated as being dependent on the thinness of its application, as I have frequently tried; hence I apply it by a thin strip of light wood or a feather to the part; or on other occasions, by saturating the bandage by drawing it through a cup of the liquid, and then straining off all excess, we have it in readiness to be laid on the part. Where there would be no necessity for the injured part to be exposed, as we would have by the gauze, and in others where there would be no traction needed, I have merely used tissue paper on the glued parts.

In applying this glue preparation for constructing permanent dressings I have used a good feather from a chicken wing, and spread a thin layer by it over each layer of the bandage, and had it very complete and firm by the time I had three layers of bandage applied.

After some discussion of my communication to the American Medical Association meeting in 1876 on Pirogoff's amputation, there was a renewal of the subject of discussion of several days previous, namely, that of applying fixed dressing for fractures and deformities. Dr. R. I. Levis then exhibited some dressings made with the ordinary carpenter's glue mixed with oxide of zinc and smeared over well applied bandages. He stated the facts that "there is no plastic material that can be used as strong as ordinary glue," and in connection with that he had taken advantage of the fact, with which he had become familiar, that it can be made to harden with very great rapidity by the simple addition of oxide of zinc.¹ It must form a particularly nice means of coaptation after operations for hernia or the abdominal section, in neither of which, however, should it be relied on without wire stitches, for the latter are always necessary to effect the deep coaptation of the sections of the abdominal walls. [A case of fracture of the fore-arm was here presented on which the application had been made three days previous. It was then ununited, and had had the plaster of Paris without success for seven weeks.]

As to the making of this preparation, all that is required is to make the glue perfectly liquid by melting it in a pot set in boiling water, care being taken not to let any water get into it. When the glue is thus made liquid four parts of officinal acetic acid (twenty-five per cent.) is to be slowly mixed in one part of it. This done, the preparation is complete, saving the addition of a few drops of otto of roses to destroy the smell of the acid as also of the glue.

It should be put into a wide mouthed bottle and well stoppered by a long cork, which can always be removed by heating the neck of the bottle. Care should be taken to keep the mouth of the bottle clean by wiping it well with a cloth dipped in hot water; this is for the purpose of preventing the adhesion of any particles of dust there. It is the cleanest method always, when using any liquid preparation, to pour some into a glass, so as not to unfit all of it for use by impregnating it with blood, or the like, with which the instrument of application may be contaminated.

Some have raised an objection that the acetic acid must be a source of irritation; but this is far from being the case, for acetic acid is a preservative, and prevents any animal matter from decaying. The mixtures made with it, which I have here to-night, have been in use in my office over two months, and are now as good as

the first day I began to use them there. This acid mixture, if not applied after Goddard's method, but on the contrary painted in a wound, will excite a burning sensation, which is not diminished by dilution of the acid or the substitution for it of aldehyde (vinegar of alcohol), which is slower in drying. Where the precaution is taken to keep the liquid from the lips of the wound there is no sensation whatever from its drying on the skin. Its contact is soothing when applied to some eruptions of the skin and a means of retaining applications (as of zinc) to the parts. It is, I have found, particularly serviceable in the latter cases.

My preferences for acetic over nitric acid were that it was less irritating, dried quicker, and preserved the glue most effectually from the slightest indications of decay for a long time after its application.

The mixture of one part of glue to four of acetic acid, which I have said I have found the best for surgical purposes, has these advantages: it dries far quicker than the same in different proportions, or than different proportions of shellac, isinglass, or white glue with different proportions of acetic or nitric acid; in fact, those with nitric acid were caustic, whereas, those with acetic were not.

The thinness of the film by which the cohesion of broken parts is to be effected having long since been demonstrated to be essential for such perfection of the result, I have not only sought for the best means of application, as I stated, by using a feather or thin strip of wood, but have tried to determine what was the best quantity and how long such required to dry. As to the quantity, I have found all that was necessary was to saturate the material — varying, therefore, as to the bulk of the latter. Here I got some interesting and indeed curious results: thus, some pieces of paper four inches square, which weighed on an average, before being wet through, two and a half grains, and after a full coating, which required three minutes to dry, had gained on an average half a grain, that is, only an eighth to each square inch. Testing these points with pieces of muslin I got a gain of two and a half grains in a piece which weighed originally 5.3 grains. This gain was determined after the acid was all evaporated and the glue all dry; this we may therefore infer was the actual addition of glue. Another piece of bandage cloth four inches square, which in its natural state weighed 4.8 grains, increased in weight immediately after being saturated with the liquid by means of the feather to 12.2 grains. Here was an increase of it to three times its weight; it took ten minutes to loose the addition due to the acetic acid, when it was again dry, and was found to have only what the glue gave it; that is, about one half of its original weight, as shown by the previous experiment.

This preparation has the advantages of being easily prepared and at very short notice. If not on hand it can be made in a few minutes, simply by having water in a tin cup on the fire so that it boils, and putting a bottle containing one part of glue to four, by measure, of the acid, and letting the bottle remain in this bath until the glue is fully dissolved and mixed with the acid. All that is then wanted is the addition of a few drops of the otto of roses to make its odor acceptable to all.

— The *Union médicale* gives the history of one Guillaume Granié, who died in prison in Toulouse after fasting sixty-three days.

¹ Transactions Medical Association, page 323.

ANTISEPTICS IN GYNÆCOLOGY.¹

BY J. W. ELLIOT, M. D., OF BOSTON.

MR. PRESIDENT AND GENTLEMEN, — Much of what I have to say this evening may not be new to many of you, but I venture upon this subject because it seems to have attracted less attention in this country than it deserves, and because it involves a principle and possibly some details that may interest the general practitioner.

The best antiseptic surgeons can open a knee-joint or the peritoneal cavity with almost absolute certainty that no trouble will follow, and yet it is not uncommon for practitioners of to-day to lose patients from septicæmia or pyæmia following the simple operation to close a ruptured perinæum or a lacerated cervix uteri, ordinary dilatation of the uterus with sponge tents, and even normal confinement. This striking contrast of results points out to us a path which seems worthy of investigation. At least, many gynecologists believe that with the faithful and intelligent application of antiseptics their special operations can also be performed with almost absolute certainty of favorable results. The Germans have within a very few years done much to confirm this opinion.

In inquiring what is the basis for the rational use of antiseptics, it does not concern us here whether bacteria are only the carriers of a poison or are in themselves a poison, nor is it yet known in what manner this poison acts in the economy to produce disease; but we do know, from the experiments of Pasteur, Lister, and others, that various forms of bacteria always exist in putrid fluids, also that the absorption of putrid material may produce pyæmia or septicæmia; and we learn from the investigations of Kock² and others that this putrid poison is not a single one, but that several poisons are developed, one after another, during the process of putrefaction. Kock found that the injections of putrefying substances (blood, etc.) into animals gave results differing according to the state and quantity of the fluid used. He succeeded, by varying the quantity injected, in producing two distinct kinds of septicæmia in mice. The first kind was very rapidly fatal, being due to the poison of sepsin, an alkaloid which has been isolated from putrid matter by Bergmann and others; this disease was in no way infectious. The second kind, which closely resembles septicæmia in man, caused death after a somewhat longer time. In this disease he followed the bacilli from the point of inoculation through the walls of the vessels, also for long distances in the subcutaneous cellular tissue. They entered the white blood corpuscles, increased there, and finally the corpuscles disappeared, only a clump of bacilli remaining. This disease is highly infectious, one tenth of a drop of blood causing death in a mouse. He noticed at the point of inoculation that a "progressive gangrene occurred, accompanied by a rapidly growing micrococcus form, which was not to be found in the blood:"³ this disease was shown to be independent of the septicæmia. He failed to produce septicæmia in rabbits, but progressive abscesses often developed at the point where the putrid material was injected; here he found no

bacteria in the blood, but a narrow zone of small micrococci lying on the periphery of the abscess next the sound tissue. He caused pyæmia in rabbits, in which disease he observed micrococci grouping on the walls of the vessels, finally occluding them, and causing thrombosis.

It is evident that our knowledge on this point is very imperfect, but these few facts will help us to understand the subject at hand. From the mass of evidence before us we feel justified in stating that bacteria act both locally and in the blood to produce disease; that there are probably several kinds of septicæmia; that the microscopist knows no difference between the so-called puerperal fever and other diseases caused by the absorption of putrid materials.

In antiseptics we possess a means of killing the various forms of bacteria. Of all the applications of antiseptics their use in obstetrics has been most striking.

It is impossible in the time allotted to go through the history of the revolution that has taken place in the minds of obstetricians since the introduction of antiseptics; suffice it to say that it has long been the general opinion in Germany that the gravest forms of puerperal disease are caused by the absorption of septic material. Schroeder defines puerperal fever as "nothing else but poisoning with septic material from the genital organs." That absorption may take place a fresh wound is required by which the septic poison can enter, and "fresh wounds exist in every puerperal woman." The great argument in favor of this theory is that none of the puerperal diseases have anything peculiar to the puerperal state alone, or occur only during pregnancy, confinement, and puerperium; in fact, one may occasionally observe all the phases of the so-called puerperal fever after dilating the uterus with a sponge tent. Forlyce Barker denies most emphatically the truth of this statement. He would have us believe that women in child-bed are the victims of both septicæmia and puerperal fever, which he considers are two distinct diseases. One of his strongest arguments is that epidemics of puerperal fever not unfrequently occur in the country, while septicæmia is usually limited to hospitals; that puerperal fever is often confined to the practice of individuals, which he asserts is not the case with septicæmia. These arguments seem to us misleading, for we are just learning that there is more than one kind of septicæmia, and, moreover, with the growing of a pregnant uterus the great enlargement of veins and lymphatics offers enormous facilities for transferring whatever poison may be present, and the contraction of the uterus may often retain the secretions; while, on the other hand, experience teaches us not to expect septicæmia or pyæmia from a superficial wound, however unfavorable the surroundings. Few surgical operations have to deal with so unfavorable an anatomical condition. Ovariectomy is certainly one of the few, and here it is well known that septicæmia is the particular thing to be feared. Still more, we have seen that septicæmia is highly infectious in animals; also, we have reason to believe that it does occur more frequently in the practice of certain individuals; it certainly has occasionally been noticed in hospitals that the cases of pyæmia and septicæmia were confined to the patients of one of the two visiting surgeons, although both surgeons visited the same ward.

It seems to us that Barker's position is untenable;

¹ Read at a meeting of the Suffolk District Medical Society.

² Die Wundinfektionskrankheiten.

³ Bacteria and Their Relations to Disease, Whitney, Boston Medical and Surgical Journal, vol. ciii., No. 7.

at all events, he stands almost alone among the authorities.

We hold, then, that the starting-point of all these diseases is the genitals; that the local disease in the genitals becomes a constitutional disease, that the process is spread in the cellular tissue, or the poisoned fluids are carried to all the organs of the body through the lymph and blood vessels, or single foreign bodies taken up by the circulation are lodged in different organs, and these cause disease. Combinations of these different ways of spreading the original process frequently occur. This, then, is the manner in which the system is infected. Infection takes place most frequently in the following classes of cases:¹—

(1.) In cases where there is wounding and crushing of the genitals, especially where the parts become gangrenous from continued pressure.

(2.) In cases where part of the placenta or pieces of the membranes are retained, or where a macerated fetus has been borne.

(3.) In cases where there exists a metritis or a blennorrhœa of the genitals.

(4.) There is no doubt that the infection of an abrasion of the genitals of a lying-in woman with stinking pus from a wound or cadaver will cause all the severest puerperal diseases.

These classes have been again divided into two great classes, according as the source of the infecting matter is the patient herself, self-infection (auto-infection), or as the infecting material comes from without (hetero-infection). This division has been adopted by all the recent writers on the subject, but it seems to us to have no scientific signification, because in all cases the bacteria come from without. To the first class belong cases of infection from retained membranes, blennorrhœa, etc.; to the second, infection by the use of unclean instruments, etc.

The first class (self-infection) is interesting to us here because, knowing the danger, we are often able to prevent trouble by antiseptic treatment.

Still more interesting to us in this connection is the second class (infection from without), on account of an idea insisted on by Winckel in Dresden. For he believes that by far the greater number of cases of infection arise in this way, and he says "epidemics very often occur from the direct carrying of infectious material from one to another; these epidemics begin from a sporadic case; *the finger of the examiner*, the instruments, bed-pan, sponge, etc., are the carriers; the time of the infection is usually at the delivery or soon after." His idea certainly explains many facts much better than any other known theory. Let me call your attention to a few of these facts:—

(1.) Epidemics² and sporadic cases occur everywhere, in hospitals and in private practice, among the rich and poor, in different ages and constitutions, on high and low land, on the sea-coast and inland, in moist and dry climates.

(2.) In large cities there are often fearful epidemics in the hospitals or in one hospital, or, as often happens in Vienna, in one clinic of the hospital, while there are no cases in the other clinics of the same hospital,³ or in the rest of the city.

(3.) It is evident from statistics and experience that every factor that complicates labor, making it more diffi-

cult or rendering instrumental interference necessary, also increases the mortality.⁴

(4.) Hugenberger and Späth⁵ found that the women brought into the hospital, having been confined on the street or on their way to the hospital, made a relatively more favorable recovery than those confined in the hospital, although they were often put beside patients already suffering from puerperal disease.

(5.) Certain statistics collected by Braun, Späth, Hecker, and Viet show without a doubt that the time of greatest danger to women in a lying-in hospital is while they are in the delivery-room (*Kreisszimmer*), there being in all German hospitals a room set apart for the women in labor. Students are admitted to this room, and here all the examinations are made and operations performed; so it often happens that the genitals are manipulated only in this room.

(6.) "It has often occurred that one physician is tracked by puerperal fever, following a series of labors, while in the same neighborhood, village, or city the disease is not met with in the practice of any other physician."⁶

"A midwife delivered a woman on the 4th of December, 1830, who died soon after with the symptoms of puerperal fever. In one month from this date the same woman delivered thirty women, residing in different parts of an extensive suburb, of which sixteen" were infected "and died."⁷ The other midwives from the same institution were twenty-five in number, and delivered, on an average, ninety a week. None of these women had a case of puerperal fever. Yet all this time this woman who had had these unfortunate cases was crossing the other midwives in every direction. This point is so well established that I need not repeat the abundant testimony.

(7.) No one can doubt that a woman delivered of a macerated fetus would come in great danger of being inoculated with putrid material. That this really occurs is rendered more probable by the statistics of Hugenberger, who found the mortality of these cases to be twenty-nine per cent.

Winckel's hospital in Dresden is at present one grand experiment to perfect this theory. There no one is allowed to examine a patient without first scrubbing his hands with soap and a nail-brush, and then disinfecting with carbolic acid (five per cent.), and this procedure must be repeated before and after each examination. No nurse can take charge of a case until her hands and finger nails have been inspected and approved by the assistant in charge. All who examine must register their names. The instant any patient shows symptoms of infection all who have examined that patient are "excluded;" that is, they cannot examine any case for two weeks. This rule serves to make the students more careful, and the vacation gives them time to rid themselves of any lingering infectious material which they may have about them. If an epidemic begins no one is allowed to examine except in case of extreme necessity. This is what they call the "radical cure," and it certainly checks an epidemic with great promptness. No one who has seen Winckel's experiments can for a moment believe that the disease is carried in the air, for he places sound and puerperal-fever patients in the same ward, side by side, taking the precaution that each shall have a separate

¹ Pathologie des Wochenbettes.

² Hirsch.

³ Clarke, Ingleby, etc.

⁴ Bush, Braun, and others.

⁵ Wiener med. Jahrb., 1863, Heft 1, pages 10-27 (Späth).

⁶ Puerperal Diseases (Barker).

⁷ London Med. Gazette, Jan. 1840 (Robertson).

bed-pan, injecting tube, eating utensils, thermometer, etc., each patient washing her own genitals. Of course cases of infection do appear in spite of the most rigid antiseptic precautions, but no severe epidemic has yet occurred, and each beginning epidemic has been cut short, not by isolating the cases, but by excluding the examiners and nurses. Almost the whole control of the patients is given over to students (*Volontär-ärzte*), and nearly all the operations are done by their untrained hands, and yet the mortality is only 2.5 per cent.

This much has been said, not in the belief that at last the great problem has been fully solved, but as men have so long quieted their consciences with the idea that the trouble "is in the air," that there "must be something in the atmosphere," we believe that a more self-condemning theory may lead to improvements in treatment. For whatever one's theoretical opinion may be, in treatment he is bound to cover all chances of mistakes where it is possible.

As a prophylactic¹ measure, then, at the beginning of labor, the patient should have a hip bath, the hair should be cut from the genitals, the vagina and vulva should be washed with soap and disinfected with carbolic acid. All the linen, etc., should be perfectly clean. Next the hands of the doctor and nurse should be absolutely clean. As many of the instruments as possible should be new, at least clean beyond a doubt. No one can be perfectly sure that some particles of dirt are not still lodged about the finger nails or in the folds of the skin. I therefore propose for students or doctors who have been at work on putrid material, or if you like for ordinary use, that they use while examining a thin rubber or gold-beater's-skin glove, which having a smooth surface can be made perfectly clean. During labor every examination should be preceded by a vaginal injection of three per cent. carbolic acid to prevent the examining finger from carrying germs lodged at the vulva, or in the vagina, up to the uterus, which is about to be more or less lacerated. Examinations should be made as seldom as possible, and manipulation with the os uteri or forcible attempts to reach a fontanelle are unpardonable. After a normal delivery the vagina should immediately be washed out with three per cent. carbolic acid, and these injections should be continued twice or three times a day, according to the foulness of the lochia, for nine or ten days, in order to wash away the lochia which stagnate just behind the fourchette, if the patient is in the horizontal position.

The spray has been and is somewhat used just as the head appears. After delivery the uterus and genitals should be considered as a deep and important wound, which may heal by first intention, or in which the secretions may stagnate, become putrid, and be absorbed. If the temperature rises to 103° F., and no trouble with the nipples or other abnormal condition be present, then it is to be supposed that the patient has been infected, and the whole generative tract to the fundus uteri should be washed out with five per cent. carbolic acid. An irrigator or fountain syringe will be found more convenient and much safer than any other kind of syringe.

An English elastic catheter is convenient to pass into the uterus, and should always be held between two fingers spread apart, to secure a free outlet for the

fluids injected. A new catheter should be used for each case.

During the delivery of a macerated foetus, and when meconium or stinking water has come away, carbolic vaginal injections should be repeated every half hour, and after delivery the whole genital tract should be washed out with five per cent. carbolic.

When part of the membranes are retained and there is no hæmorrhage, some authorities hold that they should immediately be removed to prevent the danger of infection, while others maintain that there is more danger of infection from introducing the hand or curette than from leaving the membranes and constantly washing out with carbolic acid.

Even after the temperature has been high for some days and the abdomen is already tympanitic a thorough washing out of the uterus with a disinfectant is often followed by an unexpected change for the better. Although this treatment will not save a patient after septicæmia is fairly established, yet the results are often astonishingly good in cases apparently far advanced. It is certain that by the local treatment we can in many cases stop the process, and in others its course is at least rendered milder. When the secretions are inclined to be retained a drainage tube may be left permanently in the uterus, and washed out every two hours or oftener. In severe cases constant irrigation of the uterus is of value. To accomplish this the patient is placed on a rubber bed-pan with a tube in the bottom to empty it; a double-current catheter or simply a drainage tube is passed to the fundus uteri, and held in place by packing the vagina with carbolic gauze. The fluid is in an irrigator, and the flow can be regulated according to circumstances. If the fluid be kept cold by ice we get the additional benefit of the cold to reduce temperature. The uterus lies so deep in the middle of the body that this is very efficacious.

Among the gynecological operations done antiseptically ovariectomy stands forth as a beacon light to encourage all our efforts in this direction.

In this operation the technical points are the same as in any antiseptic operation. The things usually overlooked by the casual operator are the shaving the pubes, the scrubbing the abdomen with soap and carbolic acid. Mr. Thornton (Spencer Wells's assistant) thinks this a very important point, and has the abdomen thoroughly scrubbed with soap and nail brush some hours before the operation; the skin is then soaked with carbolic acid, bits of carbolized cotton being placed in the navel and covered with mackintosh which remains on the abdomen until the operation. By this procedure time is given for the carbolic to soak into the cracks of the skin and sebaceous glands. He also attributes great importance to tapping antiseptically, that is, with a carbolized trocar under carbolic spray. The operator himself should inspect the hands of his assistants, or require them to wear rubber gloves.

All operations about the vagina should be preceded by cutting the hair, a hip bath, a thorough washing of vagina and vulva with soap and carbolic. Closing a ruptured perinæum is often done under carbolic spray. Schroeder and Martin, of Berlin, and others, do all the operations about the vagina under a constant stream of carbolized water. An irrigator being filled with a two per cent. solution of carbolic acid, one of the assistants directs the tube so that the wound is kept protected from the air; a rubber sheet under the patient is gathered at the bottom near the floor, and conducts the

¹ Ueber das Puerperalfieber und dessen locale Behandlung (Fritsch).

refuse fluid into a vessel below. This stream serves at the same time to wash away the blood and to check the bleeding, thus enabling the operator to do without sponges, which is a most important point. These wounds can be dressed antiseptically by applying antiseptic cotton and mackintosh to suit the case at hand, the urine being drawn with a catheter and the bowels kept closed.

Sims,¹ in his article on the treatment of epithelioma of the cervix uteri, in which he reports several cases as cured by repeating the operations several times, complains that one of the greatest dangers is death from pyæmia and septicæmia, on account of the necessity of leaving the tampons in place for some days. This operation can certainly be done antiseptically. The scraping and cutting away of the diseased tissue should be done under a constant stream of carbolic. The styptic tampons should be wrung out in five per cent. carbolic before they are saturated by the styptic (all tampons for wounds should be made in this way); the next layer of tampons should be carbolized glycerine, and mackintosh should be placed about the urethra to prevent the urine on the catheter from tainting the dressing.

It is often necessary to dilate the uterus both for diagnosis and treatment. The ordinary method of dilating with sponge tents is by no means unattended with danger. To avoid this, Schroeder has been led to advocate dividing the cervix right and left as high as the insertion of vagina, then forcing the fundus down over the finger; this of course being done antiseptically. Heroic as this procedure may seem, his results do not compare unfavorably with the results from dilating with sponge tents. The operation of incising the cervix is occasionally attended with great chance of infection from the flow of a secretion which has been retained in the uterus. There is still greater danger in putting in a tent to keep a divided cervix from uniting, because a tent always becomes more or less putrid, and here it is in contact with a fresh wound. It is much better, therefore, to dilate first, and then after disinfecting the interior of the uterus incise the cervix. If a tumor is removed from the internal wall, a rigid drainage tube should be left in the uterus to prevent stagnation of the secretions and to facilitate washing out.

All² forcible dilatation is dangerous, because it tears and wounds the mucous membrane, and this should be avoided if possible before the cavity has been washed out with an antiseptic. After the uterus has been dilated enough to allow this washing out, then incisions can be made and forcible dilatation can be attempted with safety, if the after-treatment be antiseptic.

Professor Schultze, of Jena, has done good work on his subject, and insists on the following precautions in dilating the uterus: The patient should be in Sims's or he knee-and-elbow position. A catheter being passed into the vagina, it should be washed with five per cent. solution of carbolic. The dilating material should be disinfected before introduction. Tupelo or laminaria is the best material. Sponge tents should not be used, because in spite of every precaution the secretion becomes putrid, and its meshes penetrate and wound the mucous membrane, thus giving rise to unfavorable conditions for infection. If sponge tents be used they should be made of disinfected sponges and

saturated with carbolic wax. Schultze prefers the laminaria, because by dipping one into boiling water he disinfects it, and at the same time makes it capable of being bent to suit the angle of the uterus; it is then greased with carbolic oil and introduced. A carbolized glycerine tampon holds the laminaria in place; after six to eight hours the tent is removed; the uterine cavity is disinfected; then several laminariæ or tupelo are introduced, as before. The finger and every instrument which is passed into the uterus must be clean and well carbolized. The results of infection can be from the smallest parametritis to peritonitis, or death from septicæmia or pyæmia. The prevention of the presence of putrid matter and the avoidance of injury to the mucous membrane, either by introducing the laminariæ or shortly before, are the only ways we have to reduce the danger to a minimum. If we wound the mucous membrane with the sound or laminaria as shown by a slight flow of blood, it is better to wait twenty-four hours before we dilate. Should infection take place, the treatment is the same as in puerperium. Schultze has dilated for diagnosis and operation one thousand cases with the above precautions; has no death and but five cases of parametritis, none of which were severe.

We will conclude with a word about antiseptics. Carbolic acid is certainly the best antiseptic in use today, and fortunately the genital tract shows a peculiar tolerance of it; for a five per cent. solution can be introduced into the uterus in considerable quantities without ill effects (care being taken to oil the vulva, which otherwise becomes irritated). There have been cases of sudden collapse after injecting carbolic acid into a puerperal uterus, but this has also happened after injecting water. I was fortunate enough to see this accident occur in Schroeder's wards, where I know that the cervix uteri was held well open, and no air could have entered through the irrigator. There is a theory among medical men that this collapse is due to air entering a vein, but as yet there is very little positive evidence to support such a theory. When we wash out a uterus, then, it is well to be prepared for this accident.

Carbolic-acid poisoning may occur, and is a matter of considerable importance in child-bearing women, for they often suffer from nephritis, and we have had an opportunity of observing an old nephritis exaggerated and even an acute nephritis set up by the use of carbolic dressings. If, then, the urine is colored dark we can employ some other antiseptic. Chlorinated soda is one of the best.

Summing up, then: The weight of microscopic and clinical testimony goes to show that puerperal fever and the diseases caused by the absorption of putrid poisons are one and the same. The finger of the examiner, the instruments, etc., are the carriers of the disease in the great majority of cases. In cleanliness and antiseptics we possess both prophylactic and curative means.

Looking at ovariectomy as an example, we believe that much improvement in the results of gynecological operations may be hoped for by doing them antiseptically. A beginning has already been made in operating about the vagina and cervix uteri under a constant stream of carbolized water, and applying antiseptic dressings. The mortality from dilating the uterus has been greatly reduced by using antiseptic precautions.

¹ Journal of Obstetrics, 1879, vol. xii.

² Wien. med. Blätter, No. 42-45, 1879 (Schultze).

RECENT PROGRESS IN DERMATOLOGY.

BY E. WIGGLESWORTH, M. D.

TUBERCULOSIS OF THE SKIN.

JARISCH and Chiari contribute¹ the case of a man aged forty-two, who presented himself for the treatment of a crust reaching over the left ear like a bow. Some slight pain. The crust was removed. A reddish-yellow, granulating ulceration, shaped like a five-leaved clover, then appeared, its pitted floor covered with pus, movable on its base, and with irregularly notched, swollen, red, pruripitous edges. Cervical glands somewhat swollen. Slight pharyngitis. Moderate dullness over right upper lung behind. Syphilis was excluded by absence of infiltration, of lard base, and of pain; epithelioma by the character of the margin and the short duration of the diseased process. Nor did the ulcer resemble that from lupus or from scrofula. After the lapse of three weeks the patient complained of a sore throat, and an inspection of the pharynx showed miliary tubercles, and small ulcerations due to the breaking down of these. Tuberculosis of the skin was now diagnosed. The ulcer steadily enlarged, and the patient died six weeks later.

Autopsy. Ulcers in trachea, pharynx, and intestine. Cheesy nodules and caverns in the lungs. Caseous degeneration of the submaxillary and cervical lymph glands. The ulcer so deep as to expose the temporal muscle and branches of the facial nerve and superficial temporal artery. The borders of the ulcers of the skin and of the pharynx were full of miliary tubercles. Chiari has seen only six cases of tuberculosis of the skin. These occurred upon the under lip, and never extended over more than ten square centimetres.

XANTHOMA.

Chambord describes² a case of xanthoma of both eyebrows, upper eyelids, and external canthi, more marked on the right side. The necropsy showed ecchinococcus cysts of the lungs and liver, tuberculosis of the omentum, and xanthoma of the larynx, trachea, and bronchi. Histologically, Chambord regards this disease as an irritative process seated in the connective tissue, and causing hypertrophy of this tissue around vessels, sweat glands, and primitive nerve bundles, the new-formed elements then fattily degenerating. In the flat form of xanthoma cell formation and degeneration keep pace with each other; in the tubercular form the latter is less rapid than the former.

HEREDITARY SYPHILIS.

Professor Zeissl contributes³ the results of a thirty years' experience to the at present much-agitated question of the hereditary transmission of syphilis. It is not so much pathological appearances as the ways and means of transmission which are of importance. It is now generally accepted that at the moment of conception syphilis may be communicated to the fetus by the semen of a syphilitic father or the ovum of a syphilitic mother. There is no *must* to this rule, and Zeissl has observed nine cases of healthy children born of parents one of whom had secondary syphilis. As the disease fades in the parents so fades the probability of transmission to the fetus, though the possibility remains as

long as the disease exists, though latent, in either parent, much more so if in both. The fewer and fainter the symptoms in the parent the less grave are they in the child. Where the disease is latent in the parent the child may appear healthy at birth, and only after three, six, or more months evince the symptoms of hereditary syphilis. Active syphilis in the parents causes abortion, still-births, or early death of child. Zeissl believes also (1) that the previously healthy mother is infected by her child of a syphilitic father, though she be not directly infected by him, that is, the man; and (2) that the child of healthy parents may be infected in the womb of, and by, its mother, should she acquire syphilis during her pregnancy. This last, the "infection in utero" of Kassowitz, is proved by a case reported by Zeissl's son, and is accepted by Guibout, Desprès, Jullien, Basseraux, etc. Not so easy is it to prove that a healthy mother can be infected by her syphilitic fetus. Still there is one case on record⁴ of a mother being infected by nursing her own hereditarily syphilitic child; and Caspari has inoculated syphilitic virus upon various parts of the body of an apparently healthy mother of a syphilitic child without effect. Zeissl does not accept Kassowitz's theory, that without going through a disease one can yet be so penetrated and permeated by it as to possess immunity from contracting it; for he almost daily examined for two years the previously healthy wife of a syphilitic husband, and found no primary lesion, yet she during this time bore two hereditarily syphilitic children, who died soon after birth, herself failing in health and losing her hair soon after the first conception, and showing during the second pregnancy a squamous syphiloderm of the palms. In another case he treated a man in 1865 who married in 1867. He examined the wife almost daily. She bore a syphilitic child in 1868, and another in 1869. After the first delivery the wife had general syphilis, but never an initial sclerosis. He has seen also many analogous cases. The fetus, then, being syphilitic, the mother is almost invariably so also. A woman can also, according to Zeissl, become infected by the semen of a man with recent but latent syphilis without being impregnated, and he states that he has seen numerous such cases. Here the woman shows late forms like painful periostitides. More frequently, however, the mother is infected by the fetus through the placental circulation, and may show symptoms belonging to the condylomatous period of the disease, or, as in galloping syphilis, those of the gum-mous stage. Such women may subsequently bear healthy children to a healthy man, or even to the same man if he has become healthy.

TREATMENT OF PRURIGO BY PILOCARPIN.

Simon, of Breslau,⁵ in view of the physiological properties of pilocarpin, has experimented with it in the treatment of such diseases of the skin as are especially characterized by absence of any secretion from the sweat glands, and particularly of prurigo. This disease is practically unknown in America, only three or four cases having ever been recorded. Into adults he injected daily, subcutaneously, one gramme of a two per cent. solution of muriate of pilocarpin. Also, at times, a syrup of jaborandi was employed internally when the injections were contra-indicated. This syrup is prepared by pouring fifteen parts of boiling water

¹ Vierteljahr. f. Dermatol. u. Syphilis, vi., 2 and 3, page 265, 1879.

² Ann. de Dermat., etc., t. x., No. 4, page 241, 1879.

³ Wien. med. Wochenschr., No. 4, 1880.

⁴ Guibout. Nouvelles Leçons cliniques sur les Maladies de la Peau, 1879, page 154.

⁵ Berliner klin. Wochenschr., No. 49, 1879.

over three parts of jaborandi leaves, and dissolving in the filtrate eighteen parts of sugar. For adults the dose is two to three teaspoons, for children in proportion. After the application of the remedy the patient was put to bed for three hours, between blankets. Patients with psoriasis could not be made to perspire; those with prurigo sweated profusely. The syrup of jaborandi in moderate doses (as above) was well borne. The pilocarpin injections and larger doses of jaborandi syrup caused, while producing the effects desired, salivation, in some cases nausea, and in a few vomiting, requiring cessation from the use of the drug. The good effects of the treatment in most cases were very apparent. The itching ceased after one or more applications, the exanthem diminished, the relapses became fewer, and, the scratching ceasing, the skin soon became smoother, softer, and less wrinkled. The swelling of the inguinal glands disappeared, and the patients rarely needed more than a month of treatment. Combined with tar externally, even more rapid progress was achieved, the patient sweating for twelve hours and being tarred the other twelve.

PATHOLOGY AND THERAPEUTICS OF FURUNCLE AND ANTHRAX.

Hofmoke, in a lecture¹ upon carbuncles, states that during the last six years he has treated forty-three cases, and many more of furuncles. Four anthraxes were treated by cold or warm cataplasms, operation, and compress wet with lime water, sulphate of copper, or chlorate of potassium. One of these required a second, and one even a third, operation. Thirty-nine anthraxes were treated otherwise, and the patients were rapidly and pleasantly restored to health. The plan adopted was as follows: The skin and environs were thoroughly cleansed with a five per cent. solution of carbolic-acid water. Longitudinal and cross cuts were made, splitting the carbuncle and reaching into the sound tissue at each end, and penetrating downwards to the fascia limiting the necrosed tissues. The quadrants were then also incised freely, parallel with the base of the carbuncle, thus cutting the blood-vessels leading from the fascia to the skin, and, by relieving the stasis, limiting further necrosis and causing a more easy sloughing of tissues already necrosed. Gentle pressure was then applied to remove purulently degenerated material, and the wound thoroughly cleaned with a five per cent. solution of carbolic-acid water, and stopped with tampons of lint soaked in the same. A similarly treated mass of lint was laid over everything, then dry charpie, and finally plaster, or a bandage. After twenty-four hours of slight or no pain, the tampons of lint are to be soaked off with a two per cent. solution of carbolic-acid water, dead matter removed, the wound washed carefully with a five per cent. solution, and dressed as at first, but now with merely a three per cent. solution of carbolic acid in olive oil, once or at the most twice daily, to avoid carbolic-acid poisoning. Lister's gauze under the tampons prevents adhesions. When wound is clean and healthy, use only simple dressings till recovery.

NON-VENEREAL SYPHILIS.

In rather more than a third of all cases of syphilis we find intentional or unintentional ignorance of whence or how the disease was acquired, with non-rec-

ognition of the nature of the initial sclerosis until later symptoms appear. The laity still look upon syphilis as necessarily coming from a lesion upon the genitals of one person and necessarily received by the genitals of another, — two errors. The lesion serving as origin of the virus may be situated anywhere upon the person infecting; the excoriated spot receiving the contamination may be upon any part of the body of the person infected. V. Sigmund cited² one hundred and sixty-six cases of extra-genital primary sclerosis. His assistant, Dr. Mracek, now adds³ eighty additional cases to this list. Of these, more than half (forty-four) were due to direct contact of syphilitic patients with non-syphilitic persons, such as physicians, wet-nurses, ward tenders, midwives, pursuing their professional duties; innocent women and children from a kiss; both sexes from scratching, sucking or biting, fingering, or "mistaken identity" (Juvenal), in war or love, when intoxicated or not. Mediate infection from sugar-teats, spoons, nursing-bottles, surgical instruments, pipes, clerical water-closets, tools (glass blowers'), and possibly toilet utensils, goblets, or dishes, was less common, and, though not always susceptible of proof, in many of these cases immediate contagion could justly be suspected. The reports of Jullien, Lancereaux, Aimé Martin, and Fournier⁴ swell this list to four hundred and seventy-seven cases. More recently five cases have been reported by Zeissl,⁵ two by Weinberg,⁶ nineteen by Hulot,⁷ Spillman,⁸ Bulkley,⁹ and Plumert.¹⁰

INFLAMMATION OF THE SKIN CAUSED BY A HITHERTO UNCLASSIFIED MITE.

Geber denies, in a clinical lecture,¹¹ the right to the term parasite of the various species of insects and fungi which merely irritate the skin, and would even recognize the itch insect or the "ringworm" fungus as mere causes of disease, classifying the resulting morbid processes under their appropriate histological or clinical headings. He describes the results of contact with the skin on the part of a microscopic harvest mite, recently detected from Lower Hungary. Barley sent thence to Klausenberg was carried in sacks upon the backs of laborers from the railroad station. Within a few minutes these men were attacked by intense itching and burning, occurring at places which had been touched by a yellowish-brown powder falling from the sacks. This powder, sent to Professor Geber for examination, proved, under the microscope, to be composed of little animals, living or dead, and their rudiments. Examination of the laborers, ten days having now elapsed, showed inflammation of the skin still present. Geber persuaded a man who had not carried the barley before to carry a sack for a few minutes, thus obtaining the appearances of recent irritation. An urticaria appeared, and lasted for more than a day. Patients in the hospital were then sprinkled or rubbed with the powder, the succeeding inflammation being shown to be of three grades of intensity. The simplest was a severe urticaria, specially localized about the openings of the follicles, confluent, lasting some thirty-six hours, the mite

² Wiener med. Wochenschr., 1865.

³ Wien. med. Presse, Nos. 1, 2, 3, 4, 5, 1880.

⁴ Union méd., October 25, 1855.

⁵ Allg. Wien. med. Zeitung, 1878, Nos. 2 and 3.

⁶ Sitzungsber. der k. k. Ges. d. Aerzte, 1878.

⁷ Ann. de Dermatol. et de Syphiligr., 1878.

⁸ T. B. Curtis.

⁹ Archives of Dermatology, Philadelphia, 1879.

¹⁰ Wien. All. med. Zeitung, 1879, Nos. 49 to 51.

¹¹ Wien. med. Presse, October 26, 1879, et seq.

¹ Wiener Klinik, October, 1879.

adhering to the epidermis, and dying in a few hours. The next grade was an eczema, lasting a week, with slight fever and loss of appetite. The third form was a dermatitis, with marked fever, followed by desquamation and pigmentation.

ETIOLOGY OF ERYTHEMA NODOSUM.

Neumann regards¹ erythema nodosum as an idiopathic disease, for erythema papulatum, annulare, iris, and gyratum occur epidemically, and represent merely different stages of development of an erythema multiforme, whereas the change of either of these forms into E. nodosum, or *vice versa*, has never come within his experience. Hebra's original view of E. nodosum as a disease *sui generis* is maintained by Trousseau and Revillout.² The diametrically opposed conception of E. nodosum as a mere symptom of the morbid condition of some internal organ is upheld by Wilson, H. Köbner,³ and Lewin.⁴ Lewin, in fact, regards this disease as an E. multiforme, believing that the size of the nodules upon the lower legs is due merely to the histological conditions there present, such as loose, distensible connective tissue and impeded circulation. Neumann denies this, and attributes the size of the nodules to the character and intensity of the disease process. Moreover, the disease has no annual relapses, no special tendency to occur in very young persons, and may accompany severe and even dangerous general conditions, being unlike, in these respects, E. multiforme. As the rule it is an acute disease, appearing with slight fever and rheumatic pains, especially attacking anæmic persons, and disappearing spontaneously in three to four weeks, not to return; or the nodules appear as symptoms of disease of other organs (endocarditis, pleuritis), or with rheumatism or pyæmia, in which cases the disease is of greater importance.

MASTITIS AND PAROTITIS SYPHILITICA.⁵

Syphilis of the pancreas has been described by Huber, Birch-Hirschfeld, Rokitsky, Lancereaux, Chvostek, Rostan; by the first in congenital syphilis, and by Klebs in a six months' fœtus. But other acinous glands are also, though rarely, affected. Of this sort are the "cancers" of quacks, where the disease yields to internal treatment, namely, potassic iodide. *Per contra*, syphilitic breasts have been excised as cancerous. Lancereaux⁶ justly claims the honor of first calling attention to syphilis of the glands of the breast. Sauvages, Maisonneuve, Icard, and others report cases of hard, knobby tumors of the breast in syphilitic patients disappearing entirely under the use of potassic iodide. Boeck reports⁷ the case of an old lady, from whose upper maxilla a tumor had been extirpated a year before, with syphilitic mastitis and gummata, both yielding speedily to iodide of potassium. He has seen also two other cases. Where no other symptoms of syphilis are present the diagnosis may be difficult, the tumor presenting all the characteristics of scirrhus, even to the lancinating pains. Richet gives a case where a tumor like that in the breast was found in one calf of the leg by accident, just as the former was about to be excised, both dis-

appearing simultaneously under treatment by potassic iodide. No other symptom was present. Verueuil has demonstrated⁸ pathological preparations from a man with multiple gummata, one of them affecting the breast. Hennig⁹ found gummata of both breasts in making an autopsy of a woman, aged fifty-five years, and who had been for four years confined to her bed on account of syphilitic ulcerations of the knee. Syphilis of the breast, therefore, may appear now as a gumma and now as interstitial induration, as is the case with syphilitic disease of the liver, testicle, pancreas, etc. Lancereaux distinguishes between "syphilitic mastitis" (interstitial) and "gummatous mastitis." Of the former he has seen one case, and he, as well as Hennig, reports three such cases as given by Ambrosoli. Lang also has seen one such case, and here the parotid gland was also affected, other signs of syphilis being present as well. Lancereaux¹⁰ reports the case of a woman, aged forty-five years, with general syphilis and disease of the left submaxillary gland, seen afterwards also at the necropsy. Volkmann, under the title Cheilitis Glandularis Apostematosa, gives¹¹ an account of five cases of catarrhal inflammation of the labial glands, either with or without abscess formation. Three of these cases were syphilitic. The condition may have arisen by direct propagation *in continuo* from a catarrh of the mouth and jaws.

FAVUS FROM THE CAT.

Dr. W. G. Smith gives¹² the case of a boy, aged two years, with an oval patch upon his back, the size of a dime, dry, and of the color of sublimed sulphur, the margin being lighter, and showing several characteristic favus cups. No eruption elsewhere. No other person in the family affected. A kitten in the house showed, on inspection, two dry, white, irregular patches. She was killed with chloroform, and crusts from the affected portions of the skin proved by microscopic examination to be composed of the mycelium and conidia of the Achorian fungus. Favus may be seen upon dogs, rabbits, canaries, and poultry, but it is least uncommon upon cats, who acquire it from rats and mice, upon whom it is by no means exceedingly rare. Dr. Smith gives another case, a girl, aged nine years, with some thirty spots upon the back. She had visited at the house of a friend, married, but childless, who allowed a cat to sleep with her, though the animal was covered with "sores." This animal died before it could be obtained, but a healthy kitten, obtained later from a neighbor, sickened soon after being brought to the house, showed upon its breast three round, scurfy patches, the size of a quarter dollar, and soon afterward died. This kitten also slept with the woman, who, with her husband, showed round, scurfy patches at about the same time. Later, favus cups appeared upon the child.

A SINGULAR DISEASE OF THE SKIN.

Under this exasperatingly worthless title, Dr. Landon reports¹³ the following case: A healthy but anæmic woman, aged twenty-eight years, mother of two children, worked twelve hours, without resting, in

¹ Wien. med. Wochenschr., No. 44, November 1, 1879.

² Gaz. des Hôpitaux, 1874.

³ Arch. für Dermat. und Syph., 1869.

⁴ Charité-Annalen, 1878.

⁵ Wien. med. Wochenschr., No. 9, 1880.

⁶ Traité historique et pratique de la Syphilis, Paris, 1874, page 186.

⁷ Erfahrungen über Syphilis, page 165.

⁸ Traité historique et pratique de la Syphilis, Paris, 1874, page 186.

⁹ Arch. für Gynaek., 1871, page 350.

¹⁰ Loc. cit., page 253.

¹¹ Virch. Arch., vol. I., p. 143.

¹² Dublin Journal of Medical Science, December, 1879.

¹³ Berl. klin. Wochenschr., January 12, 1880.

cooking and bringing water on a stormy day. She then noticed (Friday, August 21, 1878) an erysipelatous swelling of the left hand, the back of it being puffed out like a cushion, bright red, not cedematous, and itching slightly; the palms less so; the fingers free. By the evening of Saturday the hand appeared normal. On Sunday morning the right hand swelled in the same way, and remained so until evening. After an intermission of eight days the left foot, and inside of leg as high as the knee, swelled, and caused pain as well as itching. As this condition disappeared, the right foot and leg took on the same appearances, which disappeared in two days. After a pause of four weeks a puffing up of the upper lip occurred, beginning at the angle of the mouth, on the left side, and extending around the whole mouth, healing as it advanced, so that a third only of one lip was at any one time affected. Before this had quite disappeared the right cheek and eyelids became affected (October 10th), so that the eye was closed. This state of things had disappeared in twenty-four hours, by which time the left foot was again enlarged. The skin of the left shoulder swelled, and grew painful a day later, and remained thus for two days, by which time the right foot had taken its turn again. By the next day all these parts were normal, but the right buttock had become enlarged, painful, red, and plainly marked with an erythema nodosum. This disappeared within three days. A month later, the patient being healthy in the interim, the left foot repeated the process, which lasted, however, but two days, and has not since appeared. There was no fever at any time, but tolerably profuse perspiration, especially at night, which was not the case when the patient was in good health. Urine normal in quantity and quality. Joints unaffected. Dr. Landon appends his own case, which was similar, though less marked. Quinine, cold douches, the constant stream, and faradization had no effect. He regards the disease as due to a spinal irritation, from exposure and hard work, causing paralysis of the sympathetic nerve, especially of those branches going to the smaller arteries, the relaxation of which would account for the swelling. He does not, however, attempt to explain the typical intermittent, nor, in the case of the lips, gradually progressive swelling.

(To be continued.)

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

JOHN B. SWIFT, SECRETARY PRO TEM.

THE meeting was called to order by DR. HODGES at 7.40. Thirty-four members present.

DR. E. H. BRADFORD reported a case of Genu Valgum, and showed the patient, where osteotomy had been performed. He said that the pathology and treatment of knock-knee had undergone a change during the past few years. It was formerly supposed to be due to a contraction of the outer hamstring or the external lateral ligament, and to remedy the deformity these parts had been divided. It really is due to an abnormal difference in the planes of the two condyles; and therefore it is impossible for the leg to become straight by simply dividing the external lateral ligament. In order to cure a case it is necessary that the

two condyles be brought into the same plane. This is accomplished by the growth of the condyles, and may be effected in certain cases by the constant use of an apparatus. He mentioned a case of this kind. The child was four years old, and hardly able to walk on account of extreme knock-knee of both limbs. The apparatus was worn for two and one half years, and the deformity almost entirely corrected without an operation. For the last six months no apparatus has been worn, and there has been no relapse.

In cases where the limb cannot become straight under the use of apparatus, that is, where the bone will not grow, various operations have been devised. Meyer made a section of the tibia. Schede removed a wedge-shaped piece from the tibia. Annandale opened the joint and sawed off the condyle. This case recovered with a stiff knee. Ogston divided the condyle with a subcutaneous saw. This has been done over two hundred times, and has been quite successful. There have been some deaths. In order to avoid opening the joint Chiene and Macewen cut a wedge-shaped piece from the bone above the condyles on the inner side. M. Delore has operated three hundred times by breaking the leg. Supposed to be a separation of the epiphysis and rupture of the external lateral ligament.

Dr. Bradford's method was suggested by McCormick. In order to preserve the length of the limb the section is made on the outside of the bone. A chisel is entered as near the line of the epiphysis as possible; then straightening the leg separates the epiphysis and leaves a wedge-shaped gap, which is allowed to fill up by granulation, and the two condyles are thus brought upon the same plane. The joint is not opened and the operation is done with antiseptic precautions.

CASE. The patient was eleven years old, and suffered with deformity of both limbs. The right leg was operated on July 20th, and a plaster-of-Paris bandage was immediately put on over a Lister dressing. A fenestrum was cut in the bandage and the dressing turned back over the edges of the fenestrum. A second antiseptic dressing was then applied over the wound. The plaster bandage was removed in four weeks, and the deformity was found to be corrected. The patient suffered no pain whatever. The left leg was operated on four weeks ago, in the same manner. The right leg can now bear the weight of the body, and motion at the knee-joint is perfect. The left leg is still on a splint, and is not allowed to be used.

DR. A. T. CABOT opened the discussion. He said that he had seen Billroth break the tibia and fibula with the osteoclast in two adults for this deformity. Although one arm of the osteoclast was adjusted to the thigh, the bones broke where the crutch was applied. In children this procedure might separate the epiphysis. He thought it unwise to operate on a child under four years, for below that age there was a tendency for the deformity to correct itself. If, however, the deformity interferes with standing or locomotion, it should be done before this age. Osteoclasis can be done within two or three inches of the joint without danger. The last case in which he operated was broken inside of three inches of the joint. Thinks that in children osteotomy is the operation, but in adults where the epiphysis has united osteoclasis should be done. Osteotomy in adults does not do as well as in children. Unless antiseptic precautions are taken thinks osteoclasis to be preferred.

DR. BRADFORD thought that osteoclasis did not dif-

fer from Delore's method; instead of using an apparatus, he used the edge of the table as a crutch.

DR. CABOT said that with the osteoclast you could obtain a firmer hold, and were sure of having the bone break where the crutch was applied.

DR. HODGES said that all the operations involved procedures which fractured the bones near the epiphysis, and inquired if the interference with the epiphysis modified the growth of the bone afterwards. In excision of the knee the growth of the limb is interfered with.

DR. BRADFORD knew of no statistics on the subject, but thought that as the operation had been done only for a few years, it was a point that would have to be determined in the future.

DR. CORNELL asked the same question in regard to osteoclasis.

DR. CABOT answered that the operation was too young to say definitely what the effect on the growth would be.

DR. CUTLER thought that the use of antiseptics would obviate this trouble by preventing the inflammation which took place in excision.

DR. ELLIOT read a paper on Antiseptics in Gynecology.¹

DR. FOSTER inquired if he recommended the use of antiseptics in all cases.

DR. ELLIOT replied that each physician must decide for himself how far antiseptics should be employed. When the use of antiseptics was first considered the whole tract was carbolicized; but it was found that when the genitals were manipulated so much a rise in temperature followed, so that now only the vagina is washed with carbolic acid, unless there are symptoms of septicæmia.

DR. CORNELL inquired if Dr. Elliot thought that puerperal fever was communicated only by contact.

DR. ELLIOT replied that he did, and cited cases that he had seen in Winckel's wards, where recently delivered women were placed side by side with those affected with puerperal fever.

DR. C. H. WILLIAMS inquired if boracic acid had been used in this connection.

DR. ELLIOT said that it had, but that it was placed low in the list as a bactericide. He said that Dr. Chadwick had used permanganate of potash, and claims as an advantage that when all the putrid material has been washed away the solution does not change its color. But this stains all the linen that it comes in contact with, and is also a poor bactericide.

DR. W. S. BIGELOW said that the sulphite of soda had been used in Strasburg, but that at the same time great regard to cleanliness was also used.

DR. HARLOW spoke of a weak solution of cyanide of potash. A physician told him that he went from erysipelas to a case of labor in twenty-four hours after washing his hands in this. He inquired as to the use of washes in cases of ruptured perineum, saying that he never took any precautions in these cases, and had never had any trouble so long as the parts were in good apposition.

DR. ELLIOT said that in these cases he would sew up tight, and disinfect every two hours.

DR. AYER said that his practice in lacerated perineum was to wash the parts, place them in apposition, and enjoin rest. In deep lacerations he employed stitches. He used injections of carbolic acid very often, and had seen great benefit follow their use.

¹ See page 342 of this number.

DR. HODGES said that surgery had undergone a revolution in the past few years, and that it would be very difficult now to find a surgeon who did not use antiseptics in some way. He thought it was a wonder that antiseptics had not been used sooner in obstetrics. At first sight they seemed uncalled for, as labor had gone on in so many cases and for so long a time without any special trouble; but as Dr. Elliot has said, until physicians can say that no untoward symptoms arise in their cases, we ought not to leave anything undone that may prevent these symptoms.

Parturition makes a wound accompanied by a putrefying discharge, and it seems only reasonable that this should be controlled or destroyed. He therefore thought that antiseptics should be used in confinement more often than in general surgery.

A communication from DR. GOSS in regard to the expulsion of Otis Fernald, M. D., of Haverhill, was read.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

A. T. CABOT, M. D., SECRETARY.

JUNE 7, 1880. DR. SUMNER read a paper upon Two Cases of Abdominal Abscess.

CASE I. A young woman of twenty-four had indefinite stomach and abdominal symptoms, culminating in an attack of typhoid fever. She did not recover well from this, but continued to have pain and great tenderness in the right iliac region. This condition of things continued, with short periods of slight improvement, for a year. She then developed a cough with an occasional small hæmoptysis. At this time a tumor of small size was discovered just above the pubes, to the left of the median line. The pain now became worse, and soon micturition began to be very frequent. The urine at times contained bubbles of gas and had a fecal odor.

Upon examining per anum a smooth opening was to be felt in the wall of the rectum as high as the finger could reach. In the vagina an oedematous prominence to the left of the os now appeared. This was aspirated, and pus and blood were drawn. The patient, however, steadily failed and died.

An examination of the abdominal cavity revealed a large abscess communicating with the jejunum, cæcum, sigmoid flexure, rectum, and bladder.

CASE II. A young woman of thirty, recently pregnant, took "tansy and gin" to procure an abortion. This was followed by great pain in the lower part of the abdomen, with high fever. In this condition she entered the hospital.

The lower portion of the abdomen was resistant, dull on percussion, and exquisitely tender. By aspiration thirteen and a half fluid ounces of fetid pus were withdrawn. The patient failed rapidly and died. A universal purulent peritonitis was found, with an abscess to the right of the rectum. There was also a recto-vaginal fistula and a rectal stricture.

DR. TARBELL gave a brief *résumé* of seven cases of abdominal abscess which had occurred in his practice.

Of these two were in connection with malignant disease at the ileo-cæcal valve and opened through the abdominal wall. Two originated in pelvic inflammation, extended high into the abdomen, and discharged finally through its walls. Both of these cases recovered.

The fifth case was of a boy who had an abscess starting from a caries of the last cervical and first dorsal vertebrae, which finally pointed close to the ensiform cartilage. In reaching this point the pus probably followed down the upper surface of the diaphragm. The boy recovered.

Sixth Case. Abscess in the abdomen of a woman of twenty-five. It started from a caries of the last dorsal and first two lumbar vertebrae. While examining it, the tumor suddenly disappeared, and a copious discharge of pus per rectum soon followed.

Seventh Case. Abscess of the spleen. This occurring in a man of forty-five was probably the result of embolism, as the patient had heart murmurs.

DR. G. W. GAY mentioned two cases of perityphlitis, in both of which cathartics were used with fatal result. He thought death in these and in many similar cases due to the cathartic treatment, as he never saw a case die in which the opiate treatment was adopted. Dr. Gay also reported a case of abscess of the gall-bladder, in which gall-stones were discharged both through the bronchi and through the abdominal wall. In abscess of the peritoneal cavity he would recommend establishing an opening and free drainage either through the vagina or abdominal wall. When practicable he would treat such cases antiseptically.

DR. H. I. BOWDITCH and DR. BEACH also expressed themselves in favor of early incision and adequate drainage in such cases, with antiseptic precautions.

DR. ARNOLD mentioned a fatal case of perityphlitis treated by cathartics, and also a case of abscess in a child, to the left of the umbilicus, which he opened, letting out twelve fluid ounces of pus, and recovery followed.

In illustration of the advantages of a free opening DR. BRADFORD mentioned the case of a woman who entered the Carney Hospital in what appeared to be a hopeless condition, with an abscess of the abdomen and pelvis following confinement. Free openings led to her partial recovery, though she finally left the hospital with the suspicion of commencing spinal caries.

DR. WADSWORTH reported a case of rupture of the choroid. It was caused by a blow upon the eye with a book. The rupture, crescentic in shape, was just inside of the disc. A few weeks after the injury vision was one fourth; at the end of four months it was normal, but with slight astigmatism; later this defect also disappeared. Dr. Wadsworth spoke of Becker's theory that these ruptures are produced by driving the eye back upon the resistant optic nerve, which, bulging the posterior wall forwards, causes the rupture.

JUNE 21st. DR. GARLAND reported the following case of perforating gastric ulcer:—

A young woman who had previously appeared perfectly well was suddenly seized with severe pain in the cardiac region, extending up into the left shoulder. When seen, soon after the seizure, she was in a state of collapse, with feeble pulse and cold extremities. Full opiates were given and large doses of hot water, which restored the heat of the body somewhat. One hour and a half later she was again extremely cold, and in spite of vigorous treatment this collapsed condition continued until death, which occurred fifty hours from the onset of the disease. Dr. J. G. Blake saw the patient in consultation with Dr. Garland on the second day, and

suggested perforating ulcer of the stomach with consequent peritonitis as a probable cause of her condition. The autopsy established the correctness of this opinion.

The stomach was shown to the society. The ulcer was seated upon its anterior wall, and the opening was large enough to admit the tip of the little finger.

The reporter called attention to the sudden appearance of the symptoms without previous gastric disturbance, and to the puzzling character of the pain which was referred to the chest and shoulder.

DR. BLAKE recalled a case in which a woman, while quarreling with her husband, was seized with symptoms very similar to those in Dr. Garland's case. The autopsy revealed a perforating gastric ulcer.

DR. CUTLER said that the seat of the ulcer in the present case was abnormal; the posterior wall of the stomach being the more common seat of these lesions. The edges of the ulcer he found infiltrated, which would indicate that it was of rather long standing. He called attention also to an old cicatrix upon the opposite wall of the stomach.

DR. GARLAND thought that the reason for a false localization of the pain in many internal disorders might be found in the fact that the nerves carrying impressions from these parts to the sensorium are but seldom called upon to carry painful sensations, so that the brain has but little practice in discriminating between impressions from the various localities, and when such opportunities arise it is frequently at fault and makes mistakes in referring the pain to its point of origin.

DR. LANGMAID said that he found pain in the left shoulder and chest a frequent and persistent symptom of gastric disturbance.

DR. C. F. FOLSOM read a paper upon The Pathology of Insanity, which was reserved for publication.

DR. FISHER said that although great advance had recently been made in the physiology of the brain, and thereby in the pathology of insanity, the subject was still very obscure. The cortex cerebri was almost invariably affected in insanity, and there were numerous lesions of the nerve cells, the neuroglia, and the minute blood-vessels present, but these were seldom found to be exclusively characteristic of any particular form of insanity, many even existing in persons not insane. Insanity, perhaps, most frequently begun in a derangement of the blood supply of the nerve cells. Both anæmia and hyperæmia interfered with the healthy action of these cells, and might produce similar mental symptoms. In speaking of various forms of mental disease, he said that insanity was often a reflex symptom. In certain cases of tumor of the brain he had observed symptoms almost precisely corresponding to the usual effects of uterine irritation. He believed insanity to be always organic in the sense of chemical or nutritive change in the nerve cells.

DR. CHANNING spoke as follows: I am glad that Dr. Folsom has given the society a paper upon this subject, as it is one about which very little is known in America. We find almost no original pathological work done in American insane hospitals, and in but about a half a dozen of them is any attention at all paid to pathology.

With recent advances in medical teaching I hope we shall be unable much longer to speak in reproachful terms of the pathological work of our asylums; they offer material that can be found nowhere else, and it is

certainly a serious duty that we owe to the profession to make proper use of it. How much better it would be if we could speak from the stand-point of personal observation rather than from very indefinite book knowledge! It must not be forgotten that our system of hospital management is somewhat responsible for the state of affairs.

Hospital medical men are overworked and hampered with various routine duties which very seriously interfere with medical investigation. They have only limited time for study or use of the microscope, and soon lose interest in purely professional work.

In regard to the uncertainty of our knowledge of the pathological appearances in general paralysis, we had supposed there were certain definite post-mortem appearances, but we find precisely the same conditions in some cases of chronic insanity. A larger proportion of cases are of syphilitic origin than had been supposed. The same general train of symptoms is seen during life, but syphilitic lesions are found after death. Fournier in his recent work speaks of cases of "syphilitic pseudo-general paralysis." These differ only in very slight particulars from true general paralysis, and undoubtedly are often confused with it. Even yet we are apt to attach too little importance to the part played by the circulation in attacks of acute insanity. It must be remembered that there is no compensatory arrangement for removing the blood from the brain. We find in it but few of the general anastomoses common in other organs. The capillaries supplying the brain are given off directly from the large vessels, and hence any unusual strain acts with greater force than in other parts of the body. As a consequence we have very frequent hæmorrhages, aneurisms, etc. The reparative power of the brain is also greater than in other organs. Absorption of inflammatory or other products takes place with great rapidity. After going somewhat further into details, Dr. Channing added that it was apparent from these facts that there might be cases of acute insanity where no changes other than cerebral hyperæmia in its various stages would be apparent after death, and in which, consequently, no post-mortem diagnosis of insanity could be made. In cases of chronic insanity, however, changes would be more marked and definite, and undoubtedly the skilled microscopist would be able to give in many cases an accurate diagnosis of the form of insanity that had existed during life.

The precise types and forms of insanity cannot as yet be satisfactorily determined from post-mortem appearances, probably from want of experience, and not because characteristic changes do not exist.

DR. DENNY said that the study of the pathology of insanity, or rather the pathology of the brain, was primarily concerned with the minute anatomy and histology of that organ, with the results of physiological experiment, and in special forms of insanity with the clinical history and progress of the disease.

Insanity being markedly hereditary, not as an intangible entailment of qualities, but as the inheritance of peculiar modifications of physical structure, its pathological evidence must be sought, and is not infrequently found in traces of fetal hyperæmias, inflammations, effusions, or malformations. Sometimes, for example, such evidence is seen in slight adhesions of the cornua of the lateral ventricles, or in their unequal prolongation and size, indicating in whatever form, whether congenital or early acquired, a predisposition to instabil-

ity of cerebral action, rendering that delicate organ of thought less strong to withstand great crises in its vascular and nutritive processes, inevitably occurring in the anxious struggle for existence in mature life.

Experimental physiology indicates that the frontal lobes are specially connected with thought proper, and with the vaso-motor system. When they are extirpated, memory, the power of associating impressions and their inhibitory functions are gravely impaired. A kitten with this portion of the brain removed will repeatedly lap a bitter fluid, although expressing disgust each time, thus showing the loss of memory and of the power of association.

Again, if a part of the cortex, which when irritated produces movement in a paw of the opposite side, is cut out, an increase of temperature in that paw follows, showing paralysis of its vaso-motor centre.

Morbid conditions of vascular tension within the brain are most concerned in mania, melancholia, etc. And while the net-work of vessels is so diffused as to render gross localized changes less apparent, yet oftentimes differences of weight between the separated lobes of each hemisphere will point to changes in nutrition.

Careful microscopic study is required to detect minute cell and tissue changes, and these, when found, require for their proper understanding an accurate knowledge of the relations between the different parts of the cortex and central ganglia, as kept up by fibres of association. To promote such fundamental anatomico-pathological knowledge complete series of transparent sections of the whole brain preserved in order of continuity are indispensable in all asylums and medical colleges; for in this direction lies, I believe, the pathway of advance in the pathology of insanity.

The reader said, in answer to a question by Dr. Ingalls, that in cases of doubtful insanity the presence of club-foot or other deformity would tend to confirm its existence.

DR. J. G. BLAKE spoke of the frequency of tumor of the brain without insanity, and asked how frequently tumors caused insane symptoms. The reader said that late in these cases dementia was not uncommon.

—According to *Bouchardat's Ann.*, writes the *Medical Press and Circular*, we find that, from observations made in the service of M. Siredey, by M. Pomel, upon the treatment of chorea, the following deductions are made:—

(1.) Of all the remedies employed in chorea those which are the most rapid and sure are the arsenical preparations, particularly arsenious acid, which at once produces rapid amelioration of the symptoms and brings about a speedy cure.

(2.) Grave cases of chorea that have resisted other treatment yield, frequently with promptness, to arsenic.

(3.) To obtain the full benefit of the arsenical treatment it is necessary to administer the medicine in such doses as to produce, as speedily as possible, the constitutional effects or signs of arsenical saturation.

(4.) Even in children affected with chorea, no hesitation should be felt in giving strong doses of arsenic, in order to reach the point of saturation quickly.

(5.) Without denying the possibility of danger in the use of arsenic in the treatment of chorea, yet no case has thus far been recorded to establish the fact.

Medical and Surgical Journal.

THURSDAY, OCTOBER 7, 1880.

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REGISTRATION UNDER THE NEW MEDICAL LAW OF NEW YORK.

THE time fixed for registration under the new medical law, passed last April in the State of New York, expired October 1st. It is said that the properly qualified practitioners of medicine all over the State have been registering very generally. There are probably some who may have neglected to do so, but it is very evident that there are a large number of irregulars who have not complied with the law. The requirements of the law are simple and moderate, and it is thought that they both can and will be enforced. According to the provisions of the law none shall practice medicine or surgery in the State of New York without a diploma or indorsement from a legally qualified medical college of the State, or from a board of examiners of the state university, of the possession of which satisfactory evidence must be given at the time of registering.

We understand that up to October 1st only 1980 out of about 4000 "physicians" in the city of New York had registered their names, residences, and the institutions from which they hold licenses to practice medicine in the office of the county clerk as required. Those who are now derelict are liable to a fine of from fifty dollars to two hundred dollars upon being reported once for practicing without being registered, and to a fine of from one hundred dollars to five hundred dollars, and to imprisonment for from thirty to ninety days, upon subsequent information being given against them. Of these fines one half goes to the informer, so that the way of the transgressor is likely to be hard. The manner of enforcing the law and its effect upon quackery and bogus diplomas will be carefully watched by States which have not yet found the courage to meddle with the old order of things. No means are provided for the registration hereafter of physicians hitherto practicing under proper certificates who have failed to register; but such persons as have been practicing medicine for ten years without certificates, and shall obtain diplomas within two years, may register. All newly graduated physicians must in the future register before beginning to practice

A BOSTON DIPLOMA MILL.

At the end of last June the secretary of the Massachusetts Medical Society received from the German consul in Boston a diploma of the "Nova Anglica

Universitas Scientiæ et Artium," which purported to confer the degree of doctor in medicine upon one Francis Erwein, accompanied by a letter requesting information in regard to the character and powers of this "university." The diploma and letter were referred by the secretary of the society to the JOURNAL. An application to the commissioner of corporations and to the secretary of the commonwealth showed positively that no such institution had been chartered or incorporated in the State of Massachusetts. There was therefore no difficulty in assuring the German consul, and through the consul the German government, that the diploma which had been sent out for investigation was a "bogus" one, as the university was stated to be in Boston. It seemed hardly courteous to a foreign government or creditable to our own commonwealth that the matter should end at this point, especially as other communities were actively bestirring themselves to be rid of such discreditable developments of free trade. The name of the chief offender was readily suspected, but it was difficult to see precisely in what way the laws of the State or of the United States could take cognizance of the offense. Legal advice was taken, and very little encouragement offered for bringing the prosecution of the "faculty" to a successful conclusion before the courts.

The proceedings in Philadelphia against Buchanan, an associate of whom the manager of the New England University was subsequently shown to be, gave reason to hope that something more might be done than merely exposing this swindle, and leaving the perpetrators free to recommence their operations at some future time or in some other locality. The whole question was finally referred to the law officers of the county and of the general government. Meantime inquiries in regard to the "university" and complaints against it were received from the sanitary authorities in St. Louis and Chicago, and the State Board of Health of Illinois showed, through its secretary, Dr. Ranch, that it already had had occasion to find out a good deal of the history of this humbug, which was first started in Manchester, N. H., where a charter, subsequently revoked, was originally procured from the New Hampshire legislature. The detective to whom the working up of the case was intrusted by the law officers of the county soon unearthed very positive evidence tending to show that one especial individual was practically the university.

A full history of the New England University of Arts and Sciences and of those connected with it from its cradle to the present time, which we wish we felt quite sure could be called its grave, as collected by the zeal of the city detective and a reporter, may be found by the curious, who have not yet had enough of these particularly sinuous and sordid transactions, in the Boston Herald for October 4th.

If the genius of our institutions makes it necessary that the Yankee should be free to do as he pleases unto himself and others, it is to be deplored that so unfettered a being does not find virtue enough in freedom to restrain him from so contemptible and dirty an exercise of his ingenuity. Although Boston is a great

manufacturing centre, the diploma industry, fortunately, seems to have been carried on hitherto on a very humble scale; it being supposed that only about one hundred of these precious parchments have been marketed, and those chiefly in unoffending Germany. Why not send them dynamite or nitro-glycerine from this free country? As the matter stands at present these dealers in parchment must be very agreeably impressed with the peculiarly favorable conditions which Massachusetts offers for the pursuit of their especial branch of industry, and with the powerlessness of the laws to touch them. We do not fancy they object very much to a good gratuitous advertisement in the daily papers. They are probably pachyderms of too old and thoroughly elaborated a species. Will these medical freebooters, as well as their victims, all die before our legislators learn that the pursuit of one man's life, liberty, and happiness at the expense of others should have its limits, and that we owe some duties to neighboring States and foreign countries, if not to ourselves! Fines and imprisonment, not a newspaper *exposé*, should be the penalty for such a pestilential traffic as that in "bogus" diplomas.

MEDICAL NOTES.

— The *British Medical Journal* says: "The funeral of the distinguished dermatologist Von Hebra, whose death occurred recently, was, by his wish, quiet and unostentatious; but a great crowd of mourning friends, colleagues, and pupils paid their last tribute of respect. The students added to the wreaths and crosses which were piled on his tomb one of great size, bearing the inscription:—

'Wer im Gedächtniss seiner Lieben lebt,
Der ist nicht todt, er lebt nur fern,
Todt ist der, der vergessen wird!'"

— The Russian medical newspaper *Vratch* gives the following statistics respecting the attendance of women upon the medical courses opened in 1872 at the Medico-Chirurgical Academy, and afterward at the Nikolaief Military Hospital: During eight sessions the number of admissions has been 796, or an annual average of 99. During the first years the number of admissions was about equal, but it gradually increased, until, in 1876, it reached the maximum of 130. Since then the number has fallen away, in 1879 being only 77. As regards age, the greater number, 569, or seventy-two per cent., were from seventeen to twenty-two years; 193, or twenty-four per cent., from twenty-two to thirty; and 23, or about three per cent., upwards of thirty. St. Petersburg, Moscow, and the southern new Russia government furnished the majority of the students.

NEW YORK.

— Dr. J. B. Taylor, chief of the Vaccinating Bureau, has prepared a report on the recent appearance of small-pox in a tenement house in Harlem, the cases there being almost the first that have been reported in the city during the present year. They were all

among the children of three families, and there were two deaths, both in the same family, one before and one after their removal to the Riverside Hospital on Blackwell's Island. The attending physician suspected small-pox, but other medical men with whom he conferred pronounced the disease hæmorrhagic measles. When Dr. Taylor was summoned he soon became satisfied as to the true nature of the trouble, and at once took the most active measures to prevent the spread of the infection. On investigation he found that the disease had been contracted from a girl, eight years old, living in the same house, who was taken ill in August. The physician who treated her (not the same one as in the subsequent cases) told the parents that there was no danger from the affection, which he said was not small-pox, and consequently the child was not isolated, but was allowed to see children who were brought to her bedside. The attack was a mild one, and when she was convalescent, the crusts of the eruption still remaining on her person, she went into the street to play with other children. On the 16th of September she was examined in a public school by Dr. Taylor, who found pittings from small-pox on the palms of her hands. The children of one of the families affected were attended by a homœopathic physician, who believed the disease to be measles. Scarcely any of the children in the house had ever been vaccinated. In the summer of 1879 sixty-five persons were taken with the disease, and twenty-two lives were sacrificed on account of the ignorance or criminal negligence of a German practitioner, who treated a patient sick with small-pox, in a house in Third Street, crowded with Polish Jews, and who failed to report the outbreak to the sanitary authorities.

— The sanitary engineer of the Board of Health, who was detailed to investigate the cause of an epidemic of diphtheria in East Twenty-Third Street, reported that the sewerage was defective, and that tide-water entered the cellars of the row of houses in which it occurred. There were no less than twenty cases of diphtheria in one of the tenements.

— On the evening of September 25th one man, two women, and two children came very near being fatally poisoned by arsenic in a house in the lower part of the city. One of the women, while preparing some gruel for tea, mistook a box in which she kept arsenic for the destruction of rats for the salt-box, and emptied its contents into the sauce-pan of gruel. As soon as the mistake was discovered medical assistance was called in, and all the lives were saved.

— Recently, about midnight, a gentleman was found lying unconscious in the street, and as the only thing, in the opinion of the average policeman, that can produce such a state of affairs is liquor, after having been sufficiently punched and mauled, he was carried to a neighboring station-house on a stretcher. Finding, after two hours, however, that the prisoner still remained unconscious, the sergeant on duty became alarmed, and telegraphed for an ambulance from the New York Hospital; and when this arrived the surgeon in charge found that instead of being intoxicated

with alcohol he was suffering from opium poisoning. After several hours' vigorous treatment at the hospital he was restored, but if there had been much longer delay in calling in medical advice it would have been too late. The narcotism had arisen from opium smoking, but it was stated that the drug had not been used with suicidal intent.

— Dr. T. M. Franklin, who has had charge of the insane asylum on Blackwell's Island since Dr. A. E. MacDonald's removal from its temporary superintendency, in connection with that of the asylum on Ward's Island, where he is permanently located, has been appointed the regular superintendent by the commissioners of charities and correction, at a salary of two thousand dollars per annum. He was recommended by the board of consulting physicians and surgeons, and had previously been the medical superintendent of the branch asylum on Hart's Island, where many chronic cases are sent.

— A curious accident lately befell a sailor on a ship that was lying off Brooklyn. The man chanced to step into a coil of rope, one end of which was attached to the ship and the other to a tug-boat, which was about to tow her, and when the boat started the rope was drawn so tightly around his leg that the limb was instantaneously and completely amputated.

— Dr. Henri Nachtel, the originator of night medical service in this city, sailed with his wife and child by the *Scythia* on the 29th of September, and quite a number of physicians went down to the dock to bid him *bon voyage*.

— The fourth annual commencement of the training-school for nurses at Charity Hospital, Blackwell's Island, was held at that institution on the afternoon of the 30th of September. A large number of flowers had been sent for the occasion by the ladies of the Fruit and Flower Mission, and the room had been tastefully decorated with flags, evergreens, and floral devices by the nurses in the first year of the course. The ex-mayor, who made a short introductory address, presided, and on the platform with him were the commissioners of charities and correction and most of the physicians and surgeons connected with the hospital service. Ex-Commissioner Bailey presented the prizes of the year, and Commissioner Townsend Cox the diplomas. The latter, in the course of his remarks, said that it pained him to state that among several of the graduating class who were necessarily absent was Miss Mary Andrews, who, within the last three weeks, had completely lost her eyesight. A month ago there was in her ward a case of contagious ophthalmia, from which she had contracted the disease, and it had been of such a virulent nature that total blindness had resulted, and there was now no hope of her recovering her sight. She was thus entirely disabled just as she had completed her preparation to enter a field of usefulness. He regretted that the board of commissioners had no pension fund to draw upon in such instances, but hoped that private assistance, through one channel or another, would reach Miss Andrews' case. There were sixteen in the graduating class.

CHICAGO.

— The experiment of Dr. Lee at the County Hospital of transplanting the flaps of skin of the sheep to the body of a little girl failed by the death of the patient before the flaps were completely cut loose from the body of the sheep. At the autopsy it was found, however, that the flaps were all firmly adherent and were capable of being nourished from the body of the child. The death of the latter was due clearly to exhaustion and to amyloid degeneration of the liver, kidneys, and other organs. Dr. Lee next attempted to cause a sheep flap to adhere to a large ulcerating surface from which an enormous epithelioma had been removed. The patient was a man and in fair general condition, the ulcer being upon the outer aspect of the thigh. The difficulties of maintaining immobility of the patient and the sheep were greater than in the first instance, and although adhesion of a part of the flap took place it was lost in its removal from the animal. A third trial has been made in a case of a large ulcer of the leg, left after the extirpation of an angioma, but the soil is unpromising, and no very sanguine hopes of success have been entertained. The trial is still in progress.

— The Chicago Medical College winter course (its twenty-second) opened on the 28th of September with a public evening lecture by Professor Rea, on the Rise, Progress, and History of the Medical Colleges of the Northwest. He dwelt upon the efforts in the West to elevate the standard of medical education, and particularly upon those to make the Chicago *Medical* a leader in this work.

— The annual course of the Rush College was inaugurated on the evening of September 28th by a lecture by Prof. John E. Owens, on the History of Ancient Medicine. The class is a large one, the matriculation book showing at the close of the first day of the course four hundred and thirty-six students.

MEDICO-LEGAL.

Supreme Court of Massachusetts. Injury on the Common. A city is not liable, either at common law or by statute, for an injury received by a person crossing the public common, from a sled used in coasting down a path on such common, although the city authorities licensed such coasting and prepared the path therefor.

— In the same court. If a person returning from a funeral on the Lord's day take a circuitous route through another town, solely for the purpose of making a social call on a friend, and thus sustains an injury from a defect in the highway, it is not a question for the jury whether he was then traveling "from necessity or charity" within the General Statutes, but as a matter of law he cannot recover of the town liable to keep the highway in repair.

— In the same court. An inmate of a lunatic asylum, committed there by friends, is not liable in an implied contract for board and other charges if he is received on the written promise of others to pay his board and defray his other expenses.

Miscellany.

ANNUAL MEETING OF THE AMERICAN ACADEMY OF MEDICINE.

THE fifth annual meeting of the American Academy of Medicine was held in Manning Hall, Brown University, Providence, R. I. on Tuesday and Wednesday, September 28 and 29, 1880. The society consists of one hundred and nineteen members, of whom twenty-four were present during the session.

Tuesday afternoon. The president, Dr. Frederick D. Lente, of New York, occupied the chair, and welcomed the members in a few well-chosen words.

Upon recommendation of the council the following gentlemen were admitted to fellowship: James C. Morris, of Philadelphia; H. Webster Jones, of Chicago; Charles G. Smith, of Chicago; P. S. Connor, of Cincinnati; Cornelius R. Agnew, of New York; Charles O'Leary, of Providence; Robert Amory, of Brookline, Mass.; J. W. C. Ely, of Providence; Theophilus S. Hartley, of Ridgeway, Pa.; Lloyd Morton, of Pawtucket, R. I.; Albert E. Ham, of Providence; George W. Porter, of Providence; George D. Hersey, of Providence; Theodore T. Wing, of Susquehanna, Pa.; Francis M. Perkins, of Philadelphia; Audley Haslett, of Brooklyn; Joseph M. Turner, of Brooklyn; Lemuel J. Deal, of Philadelphia; Nathan Allen of Lowell, Mass.; William Elmer, Jr., of Trenton; Charles C. Lee, of New York; William Elmer, of Bridgeton, N. J.; Lewis D. Harlow, of Philadelphia; Theophilus Parvin, of Indianapolis; Albert H. Smith, of Philadelphia; Samuel J. Jones, of Chicago.

Several amendments to the constitution, which have laid over for one year as required by the by-laws, were read by the secretary and adopted.

Upon motion of Dr. John S. Billings, of Washington, D. C., the council were instructed to collect the laws of all the States in the Union and of the Dominion of Canada which pertain to physicians and to the practice of medicine, with a digest of the same, and to present them to the academy at its next annual meeting.

By vote of the academy the faculty and students of Brown University were invited to be present at the evening session.

Tuesday evening. The exercises were opened with prayer by Rev. Dr. E. G. Robinson, president of the university.

The president, Dr. F. D. Lente, then delivered the annual address upon The Higher Education of Medical Men and its Influence upon the Profession and the Public. He said:—

This may be looked upon as a wide subject for this occasion. But it has been chosen as a fitting one on account of the false relations which our profession at the present day bears to the public and to the other liberal professions. How do we stand in the eyes of the laity? Do we as a profession command the respect and consideration which were accorded to us a hundred years ago? Are our relations to the law, the press, the clergy, what they should be? These questions must all be answered in the negative. The fault lies not in the profession of medicine itself, which is indeed a great and noble one, but in its votaries; and we meet here to-night to protest against the continuance of this state of things. To reform these evils we must appreciate their exact nature, and then boldly face

them. The chief seat of the evil spoken of is in the lack of preliminary education and mental culture in those who adopt the profession of medicine. The standard in this respect has retrograded since the early foundation of our republic. The first efforts in this country to regulate the practice of medicine were made in New York in 1760, when a law was enacted requiring physicians to pass an examination and receive a license before practicing their profession, under penalty of a fine. In 1772, New Jersey passed a similar law. Pennsylvania at that time claimed equality with European countries in the preliminary requirements, in the length of the term of study, and in the thoroughness of instruction. Students were required to show proficiency in Latin, mathematics, and English branches before a medical degree was awarded. And yet the science of medicine was much less extensive then than at the present day. New departments of science have been introduced into the medical curriculum, so that the area of study has more than doubled in thirty years. How is it possible for the student in two terms of lectures of five months each to digest all the immense amount of material now included in a medical course? In the majority of cases it is done by mere cramming. Nor has there been any improvement in the system of teaching except by an imperfect grading and classification of students in a few colleges. Students of all grades attend the same lectures, whether they have been engaged in the study of medicine for three years or three months. Moreover, we have too many medical schools. Since the independence of our country was established, the number of medical schools has risen from sixteen to eighty. This number is far beyond the needs of the country. In Canada there is only one school to every two and a half million of inhabitants, and yet there is no want of doctors. The rivalry between the schools in securing students arises wholly from pecuniary considerations. This explains the unwillingness on their part to raise the requirements for matriculation. This rivalry destroys the independence of the schools, and compels them to adopt methods which their consciences condemn. The consequence of all this is an undue multiplication of physicians. The average proportion of physicians in European countries is one to every thirty-eight hundred people. In this country it is one to every six hundred. The results of this excess are evil, and affect alike the profession and the laity. Even granting that all these physicians were properly educated, what is to become of them? Experience has shown that in this country fifteen hundred people are necessary to the support of one physician. The result is that a part are compelled to adopt some other means to eke out a livelihood. They struggle along, suffering a loss of professional interest, a loss of high purposes and ambitions, and not infrequently degenerate into the most contemptible practices. These facts do not detract from the high standing of medical science in America. We are in all respects equal to Europe in this regard, and upon some points far ahead. Our medical literature commands the respect of the world. But the amount of work done is small in comparison with the whole number of the profession. How are we to limit the number of physicians? We must induce a better class of men to enter the profession. At present the idea prevails that the study of medicine is very easy and simple. For this reason the stupid and indolent frequently enter upon it, while the best men seek other vocations. But a change is slowly taking place. The

growth of a taste for scientific studies among the laity demands on the part of the physician a corresponding knowledge and education. We cannot afford to allow our standard of culture to sink below that of the intelligent portion of the community. The time has come for concentrated simultaneous action. What shall it be? Examinations by disinterested boards of examiners or by censors of state medical societies, state laws for regulating the practice of medicine, the action of the American Medical Association for this purpose, the National Association of American Colleges,—all of these methods have failed to accomplish what was expected of them. The object of the American Academy of Medicine is to reach the same result by different means, by bringing together the most highly educated men in the profession, and thereby encouraging thorough preliminary education. The best preliminary requirement at present available is that the student shall possess the degree of A. B. or A. M. from some respectable literary institution. This will furnish a guaranty that he has spent several years in the higher literary pursuits, that he has formed habits of study, that he is able to comprehend the nomenclature of his profession, and that he is fitted for a professional career. It is claimed by some that the Academy is too exclusive. But at the present day any man by moderate effort can obtain a collegiate education. The labor and expense necessary to secure a degree are comparatively trifling. Any youth who has not enough of ambition and of patience to accomplish this is not fit for the study and practice of medicine. Even if this were not so, still our profession should be no less exclusive. A medical diploma to be of value should show that the holder of it has availed himself of all the advantages which can be had to fit himself for his profession. We are not in a position of antagonism to other medical societies. Every medical man, whether eligible to membership or not, must and will sympathize with and appreciate our work and lend us his coöperation and aid. We do not claim that the possession of a degree is a panacea for all the evils which exist in the profession. But such a requirement will at least give to the practice of medicine the dignity of a learned profession, and raise it to the position of honor and esteem of which it is worthy.

Wednesday forenoon. After the reading of records, the report of the treasurer was presented, showing a balance in the treasury of \$240.15.

A vote of thanks was unanimously awarded to the president for his address of the previous evening, and to the officers of Brown University for their hospitality in allowing the use of the hall in which to hold the meetings.

The annual election of officers for the ensuing year then took place, with the following results:—

President, Dr. Edward T. Caswell, of Providence, R. I.; Vice-presidents, Dr. Henry O. Marcy, of Cambridge, Mass.; Dr. William T. Taylor, of Philadelphia, Pa.; Dr. Howard Pinkney, of New York city; Dr. Horace Lathrop, of Cooperstown, N. Y. Secretary and treasurer, Dr. Richard J. Dunglison, of Philadelphia, Pa. Assistant secretary, Dr. Charles McIntire, Jr., of Easton, Pa.

The Academy then adjourned to meet in New York on the third Tuesday in September, 1881.

— M. Trélat has succeeded to the professorship of clinical surgery, made vacant by the death of Broca.

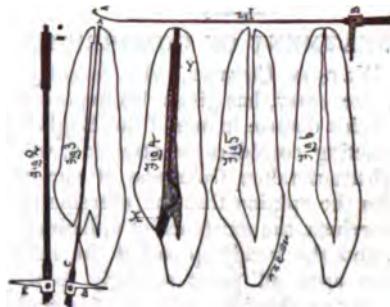
TREATMENT FOR PULPLESS TEETH WITH UNCONTRACTED PULP TRACTS.

BY WILLIAM HERBERT ROLLINS.

THE expression *pulpless* is used instead of the accepted terms *dead* or *devitalized*, because such teeth are alive, for they are in vital connection with the body through their root membranes. Figure 6 shows a tooth with a normal pulp-tract; Figure 5, one with an uncontracted pulp-tract.

The methods in general use fail when applied to a tooth like Figure 5, because the filling material is either forced beyond the end of the root, or does not perfectly fill the pulp-tract.

The following treatment has proved successful:



Pass the gauge, Figure 1, into the pulp-tract, until the end, A, catches outside the root of the apex; then adjust the collar as shown in Figure 3. Remove the gauge. The upper part of pulp-tract is now to be made cylindrical with a drill having a collar like the one shown in Figure 2, and adjusted to the length of the tooth as found by the gauge. Take out this drill and put in the one shown in Figure 2. When the drilling is done and the drill removed, the hole should have the shape shown in Figure 3.

Next make a plug of platinum like the one shown in position in Figure 4. Holding this by its tail in an instrument having a constant source of heat,¹ smear with a mixture made by kneading one part of gutta percha with four parts of light oxide of zinc over a water bath.

The cavity in the tooth having been made perfectly dry and varnished with a solution of copal in ether,² the platinum plug is to be pressed into position, the tail bent into the cavity, and the remaining space filled with the above-named mixture. If the manipulation has been good the pulp-tract must be perfectly filled. The work is finished by filling the external opening with gold.

Boston, September 1, 1880.

RICHMOND COUNTY MEDICAL SOCIETY, NEW YORK.

At the annual meeting of the Medical Society of Richmond County, N. Y., held July 7, 1880, the following resolution was unanimously adopted:—

Whereas, Dr. H. G. Piffard, at the meeting of the American Medical Association on June 4, 1880, offered a resolution impeaching the standing of the Richmond County Medical Society on account of the alleged former irregularity of one of its members; and whereas this society is in possession, after careful inquiry, of

¹ Same instrument used as in my vitrine method.

evidence showing that the member referred to has been recognized as in regular professional repute since his graduation, and that his position in this respect was known to Dr. Piffard at least as long ago as in 1869, therefore, —

Resolved, That the above-mentioned resolution offered by Dr. H. G. Piffard must have been known by him to be utterly invalid as regards the standing of the Richmond County Medical Society, and could only have been prompted by an intent to injure the character of a physician whose record has been before the profession for many years.

That a copy of this resolution be forwarded by the secretary to the principal medical journals.

W. C. WALSER, M. D., *Secretary*.

TREATMENT OF GONORRHOEA.

DR. W. WATSON CHEYNE, who recently took the Boylston prize essay, has given his experience on the treatment of this disease in one of the English journals. As it is attracting considerable attention, we give the following abstract taken from one of our exchanges. He expresses the opinion that the extreme contagiousness of gonorrhoea, the existence of a distinct period of incubation, and the steady spread of the inflammation from a given spot, all point strongly to a parasitic origin. Acting on this idea, Dr. Cheyne made a number of cultivation experiments, in which he produced large numbers of organisms in the pus of gonorrhoea. In addition, he believes that the mucous membrane itself in the neighborhood, as well as the pus of the inflamed parts, is the seat of organisms. In the case of gonorrhoea, then, he supposes that at the time of infection a small number of the specific organisms, which in all probability possess a considerable resisting power to the destroying action of the healthy living tissues, are retained in the urethra; that these go on developing; that the products of their growth irritate and weaken the mucous membrane in their vicinity; that the organisms can then penetrate into and live in that weakened tissue; and that the extension of this process over a portion of the mucous membrane of the urethra is the cause of the inflammatory symptoms. Granting the correctness of this theory, what is wanted is a medicinal application which shall destroy the organisms without irritating the inflamed and highly sensitive mucous membrane. Iodoform and oil of eucalyptus appeared to Dr. Cheyne to possess the proper qualities, and he has accordingly experimented with these drugs, mixed with cacao butter, made up into bougies of various lengths. These bougies possess among other advantages over injections this: that, having the diameter of a No. 9 or No. 10 catheter, they expand and smooth out the swollen mucous membrane. Dr. Cheyne has found a combination of the two drugs better than either alone. He employs the following formula: iodoform, five grains, oil of eucalyptus, ten minims, in a bougie of forty grains. The specific element of the disease having been eliminated by this means, antiseptic injections are employed in addition, for the purpose of preventing the discharge from becoming septic and irritating. A saturated solution of boracic acid in water, or an emulsion of eucalyptus oil (one ounce of eucalyptus oil, one ounce of gum acacia, water to forty or twenty ounces), to be used for two or three days. At the end of that time injections of sulphate of zinc, two grains to the ounce, may be begun. The usual precaution of rest, diluent

drinks, etc., must be employed. In using the bougies, the patient is first told to empty his bladder, partly to clear out his urethra, partly to prevent the necessity of expelling the antiseptic from the canal for several hours. He then lies down on his back, and a bougie from four to six inches long is introduced, and the orifice of the urethra is closed by strapping. The bougie ought to be dipped in eucalyptus oil or in carbolic oil (one to twenty) before insertion. The patient is instructed to refrain from passing water, if possible, for the next four or five hours. If the case be severe and advanced, he takes another bougie home, and is instructed to introduce it in the same manner after he next passes urine. On that evening, or on the following day, he commences the antiseptic injection, which he uses four or five times daily. On the third or fourth day, when the symptoms have entirely subsided, an injection of sulphate of zinc, two grains to the ounce, is begun. Dr. Cheyne has employed this method in about forty cases, and in all the result has been the arrest of the progress of the gonorrhoea. For a day or two the purulent discharge continues, but afterwards it steadily diminishes in amount, becoming in four or five days mucous, and ceasing altogether in a week or ten days. At the same time the scalding and pain and the symptoms of inflammation rapidly diminish, and disappear completely in about thirty-six to forty-eight hours. In fact, the case becomes no longer one of virulent gonorrhoea, but one of simple urethritis, rapidly progressing towards recovery if properly treated.

AMERICAN PUBLIC HEALTH ASSOCIATION.

THE executive committee of the American Public Health Association have announced that the eighth annual meeting of the association will be held in New Orleans, December 7th to 10th. Papers will be presented on abattoirs, epidemics, life insurance in its relation to the public health, the storm-water question in city sewerage, the sanitary engineering problems of the Mississippi River, the hygiene of emigrant ships, the prevention of venereal diseases, voluntary sanitary associations, etc. The special questions suggested for discussion at this meeting, in addition to those connected with the papers above referred to, relate to methods of preventing the spread within a town or city — after they have once been introduced — of such contagious or spreading diseases as diphtheria, scarlet fever, yellow fever, measles, small-pox, etc., and are as follows: What are the best means of securing prompt and reliable information as to the presence and location of cases of such diseases? What are the best means of securing isolation of the first or of single cases of such diseases, and what are the chief difficulties in securing such isolation? Under what circumstances is it proper to declare such diseases epidemic in a place? Under what circumstances is it proper to recommend the closure of schools on account of the prevalence of such diseases? What precautions should be taken at the termination of each case as to the care and disposal of the dead, the disinfection and cleaning of the room and house, and the period of time at which it is safe to allow the convalescent to return to school or society. Brief, practical papers upon any or all of these points are earnestly requested. Notice of intended papers should be sent to the president, Dr. J. S. Billings, Washington, D. C., or to Dr. E. H. Jaes, secretary, New York.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 25, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Lung Diseases.	Typhoid Fever.
New York.....	1,085,000	571	267	29.42	14.36	7.71	9.98	1.23
Philadelphia.....	901,380	273	94	17.95	6.23	4.40	4.76	1.47
Brooklyn.....	564,400	239	112	35.57	10.79	16.32	7.53	1.25
Chicago.....	—	200	109	38.00	9.50	17.50	9.50	2.50
St. Louis.....	—	139	46	23.74	7.91	3.60	2.88	4.32
Baltimore.....	393,796	143	47	27.27	6.30	4.90	2.10	2.73
Boston.....	363,938	167	76	34.73	22.16	7.78	3.57	2.40
Cincinnati.....	280,000	81	31	25.93	12.35	3.70	4.94	6.18
New Orleans.....	210,000	104	34	15.38	1.92	.96	5.77	1.92
District of Columbia.....	170,000	78	36	29.49	5.13	7.69	7.69	2.57
Buffalo.....	—	60	26	33.33	13.33	13.33	5.00	5.00
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	56	28	46.43	5.36	25.00	7.14	5.36
Milwaukee.....	127,000	47	24	17.02	8.51	—	8.51	2.13
Providence.....	104,862	33	13	21.21	9.09	6.06	3.03	3.03
New Haven.....	60,000	14	3	28.57	—	14.29	—	7.14
Charleston.....	57,000	26	11	11.54	—	—	7.70	3.85
Nashville.....	43,543	15	4	20.00	—	—	—	13.33
Lowell.....	59,340	28	13	32.14	17.86	—	3.57	7.14
Worcester.....	58,040	26	8	26.92	11.54	3.85	15.38	7.69
Cambridge.....	52,860	21	4	23.81	14.29	4.76	9.52	4.76
Fall River.....	48,626	26	16	11.54	3.85	3.85	7.70	3.85
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	14	4	35.71	14.29	21.43	—	—
Springfield.....	33,536	12	5	16.67	—	16.67	—	—
Salem.....	27,347	9	4	33.33	22.22	—	—	11.11
New Bedford.....	27,268	10	3	10.00	10.00	—	—	—
Somerville.....	24,964	7	2	—	—	—	—	—
Holyoke.....	21,961	8	4	50.00	12.50	12.50	—	25.00
Chelsea.....	21,780	16	8	43.75	—	37.50	—	—
Taunton.....	21,145	6	2	16.67	—	16.67	—	—
Gloucester.....	19,288	7	4	42.86	—	14.29	—	—
Haverhill.....	18,478	2	0	—	—	—	—	—
Newton.....	16,994	4	2	50.00	—	50.00	25.00	—
Newburyport.....	13,470	10	3	20.00	10.00	—	10.00	—
Fitchburg.....	12,270	3	1	33.33	33.33	—	—	—
Eighteen Massachusetts towns....	138,734	47	19	25.53	19.15	4.26	6.89	—

Deaths reported, 2492; 1063 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 706, consumption 357, diarrhoeal diseases 264, diphtheria and croup 212, lung diseases 164, typhoid fever 63, malarial fevers 63, scarlet fever 39, whooping-cough 23, cerebro-spinal meningitis 13, small-pox 11, measles 11, erysipelas seven. From *malarial fevers*, New York 16, New Orleans and District of Columbia 10, Brooklyn nine, St. Louis eight, Baltimore five, Charleston two, Chicago, Pittsburgh, and New Haven one. From *scarlet fever*, Chicago nine, Baltimore seven, Philadelphia and Brooklyn five, New York three, Pittsburgh and Milwaukee two, Buffalo, Providence, Nashville, Worcester, Gloucester, and Newburyport one. From *whooping-cough*, New York six, Baltimore four, Boston three, Brooklyn and Pittsburgh two, Philadelphia, Chicago, St. Louis, Cincinnati, Lowell, and Chelsea one. From *cerebro-spinal meningitis*, Chicago four, New York and Philadelphia two, St. Louis, Baltimore, Cincinnati, District of Columbia, and Brockton one. From *small-pox*, Philadelphia seven, New York two, Brooklyn and Chicago one. From *measles*, New York four, Baltimore, Cincinnati, New Orleans, Pittsburgh, Milwaukee, Lowell, and Gloucester one. From *erysipelas*, New York two, Philadelphia, Chicago, St. Louis, Baltimore, and Boston one.

Sixty-two cases of diphtheria, 24 of scarlet fever, eight of typhoid fever, two of whooping-cough, one of small-pox, and one of measles were reported in Brooklyn; diphtheria 32, scarlet fever 12, in Boston; scarlet fever 15, diphtheria 14, in Milwaukee; scarlet fever 17, diphtheria six, typhoid fever three, whooping-cough one, in Providence; scarlet fever 12, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,018,415 (population of the State 1,783,812), the total death-

rate for the week was 21.72 against 21.51 and 22.05 for the previous two weeks.

Total deaths and deaths under five years about the same; deaths from diarrhoeal diseases considerably diminished.

For the week ending September 4th, in 149 German cities and towns, with an estimated population of 7,725,065, the death-rate was 30. Deaths reported, 5512; 2887 under five: pulmonary consumption 395, diphtheria and croup 116, acute diseases of the respiratory organs 96, scarlet fever 93, typhoid fever 68, whooping-cough 64, measles and *rötheln* 34, puerperal fever 23, typhus fever (Posen, Berlin, Dortmund) three, small-pox (Königsberg) one. The death-rates ranged from 12.2 in Kiel to 54.4 in Chemnitz; Königsberg 35.1; Breslau 31.1; Munich 31.5; Dresden 29.7; Berlin 33.8; Leipzig 30.7; Hamburg 32.5; Hannover 13.2; Bremen 19.6; Cologne 38.2; Frankfurt 16.4; Strassburg 20.6.

For the week ending September 11th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 25.4. Deaths reported, 3643: diarrhoea 917, acute diseases of the respiratory organs 124, scarlet fever 111, fever 67, whooping-cough 53, measles 22, diphtheria 15, small-pox (London) five. The death-rates ranged from 20 in London and Bristol to 39 in Liverpool; Birmingham 24; Manchester 40. In Edinburgh 21; Glasgow 17; Dublin 35.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 43 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 12, typhoid fever nine, diphtheria and croup seven, whooping-cough six, scarlet fever two, measles two, small-pox one. The death-rates of the principal cities were: Geneva 21.4; Zurich 24.7; Basle 24.5; Berne 24.6.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Sept. 19	30.184	63	73	58	77	64	77	73	NE	E	SE	1	10	4	O	F	O	—	—
" 20	30.013	69	80	60	88	65	90	81	SE	S	SW	9	7	9	O	F	O	—	—
" 21	29.910	67	79	60	89	25	57	57	W	W	W	10	16	7	F	C	F	—	—
" 22	30.101	58	68	52	63	35	56	61	W	W	NW	12	15	11	C	F	F	—	—
" 23	30.230	55	65	45	71	32	50	51	W	NW	NE	7	12	6	C	F	C	—	—
" 24	30.313	58	72	43	77	39	70	62	O	SW	SW	0	13	10	C	C	C	—	—
" 25	30.208	64	80	52	87	42	77	69	SW	SW	S	8	7	9	C	C	C	—	—
Week.	30.145	62	80	43				65	SW									20'	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 25, 1880, TO OCTOBER 1, 1880.

IRWIN, B. J. D., major and surgeon. Relieved from duty in Department of Dakota, and to report in person to the lieutenant-general commanding Military Division of the Missouri for duty as attending surgeon at head-quarters of that division, relieving Surgeon Spencer. S. O. 205, A. G. O., September 24, 1880.

SPENCER, W. C., major and surgeon. When relieved by Surgeon Irwin to report in person to the commanding general, Department of Dakota, for assignment to duty. S. O. 205, C. S., A. G. O.

GODDARD, C. E., major and surgeon. To report in person, at the expiration of his present leave of absence, to the superintendent of the Mounted Recruiting Service for duty as post surgeon at the cavalry depot, Jefferson Barracks, Mo. S. O. 205, C. S., A. G. O.

BROWN, J. M., captain and assistant surgeon. To accompany battalion sixteenth infantry from cantonment on the Uncompahgre, Col., to Fort Garland, Col., and there remain on duty. S. O. 211, Department of the Missouri, September 22, 1880.

BREWER, J. W., captain and assistant surgeon. To report in person to the commanding general, Department of the South, for assignment to duty. S. O. 205, C. S., A. G. O.

TREMAINE, W. S., captain and assistant surgeon. Relieved from duty in Department of the Missouri, and to report, by letter, at the expiration of his present sick leave of absence, to the surgeon-general. S. O. 205, C. S., A. G. O.

WEISEL, D., captain and assistant surgeon. To report in person, at the expiration of his present leave of absence, to the commanding general, Department of the East, for assignment to duty. S. O. 205, C. S., A. G. O.

HARVEY, P. F., captain and assistant surgeon. Assigned to duty at Fort Snelling, Minn. S. O. 113, Department of Dakota, September 22, 1880.

BENHAM, R. B., first lieutenant and assistant surgeon. Assigned to temporary duty with escort to working parties on extension of Northern Pacific Railroad, at Camp Houston, Dakota Territory. S. O. 113, C. S., Department of Dakota.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, JULY 1, 1880, TO SEPTEMBER 30, 1880.

BAILHACHE, P. H., surgeon. Relieved from temporary duty as medical officer revenue bark S. P. Chase, and ordered to rejoin his station as member of the National Board of Health. August 26, 1880.

Detailed for duty as medical officer, port of Georgetown, D. C., during temporary absence of Passed Assistant Surgeon Fisher. September 17, 1880.

MILLER, T. W., surgeon. Granted leave of absence for seven days from July 17, 1880. July 13, 1880.

GASSAWAY, J. M., passed assistant surgeon. Relieved from duty at Fort Townsend, Wash. Ter., and ordered to report to Surgeon Fessenden, New York. July 7, 1880.

Granted leave of absence for thirty days from September 1, 1880. August 9, 1880.

STONER, G. W., passed assistant surgeon. Detailed as recorder of board for the physical examination of cadets of the revenue marine service. July 6, 1880.

FISHER, J. C., passed assistant surgeon. To proceed to Elizabeth City and Edenton, N. C., as inspector. September 17, 1880.

GOLDSBOROUGH, C. B., assistant surgeon. Granted leave of absence for thirty-one days from August 26, 1880. August 13, 1880.

IRWIN, FAIRFAX, assistant surgeon. Granted leave of absence for twenty-one days from August 14, 1880. August 2, 1880.

MEAD, F. W., assistant surgeon. Relieved from duty at San Francisco, Cal., and ordered to assume charge of the service at Port Townsend, Wash. Ter. July 7, 1880.

COOK, H. P., assistant surgeon. Granted leave of absence for twenty days from November 23, 1880. September 6, 1880.

GUIERAS, JOHN, assistant surgeon. To report for temporary duty to Surgeon Sawtelle, St. Louis. July 7, 1880.

Relieved from temporary duty at St. Louis, and ordered to report to Surgeon Austin, New Orleans. September 28, 1880.

WHEELER, W. A., assistant surgeon. To report for temporary duty to Surgeon Fessenden, New York. July 7, 1880.

BENSON, J. A., assistant surgeon. To report for temporary duty to Assistant Surgeon Goldsborough, Baltimore. July 7, 1880.

BANKS, C. E., assistant surgeon. To report for duty to Surgeon Heber Smith, San Francisco. July 9, 1880.

PROMOTIONS. GODFREY, JOHN, passed assistant surgeon. Promoted to be passed assistant surgeon from July 1, 1880. July 6, 1880.

BROWN, F. H., passed assistant surgeon. Promoted to be passed assistant surgeon from July 1, 1880. July 6, 1880.

APPOINTMENTS. The following candidates having passed the examination required by the regulations were appointed assistant surgeons July 6, 1880:—

JOHN GUIERAS, of Pennsylvania, WILLIAM A. WHEELER of Indiana, JOHN A. BENSON, of New Jersey, and CHARLES E. BANKS, of Maine.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, October 9th, at seven and a half o'clock. The following papers will be read: Dr. H. W. Broughton, A Case of Enlarged Liver, apparently of Malarial Origin. Dr. C. P. Barcroft, A Case of Urethral Stricture treated by Otis's Method.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAYES, M. D., Secretary.

NEW YORK HOSPITAL. — Dr. Balkley will give a fourth course of lectures on diseases of the skin in the pathological amphitheatre of the New York Hospital, 7 West Fifteenth Street, Wednesday afternoons, from 2.30 to 3.30 o'clock, commencing Wednesday, October 6, 1880. The lectures will be didactic and clinical in character, going over the entire subject of Diseases of the Skin (including Syphilis), and will be freely illustrated by colored plates, photographs, life-sized models, the blackboard, and abundant clinical material. The pathology, differential diagnosis, and treatment of diseases of the skin will be especially considered. The course will consist of twenty-four lectures, and will be free to practitioners of medicine and medical students.

Original Articles.

AMERICAN ANATOMY ACTS.

BY EDWARD MUSSEY HARTWELL,

Fellow of the Johns Hopkins University, Baltimore, Md.

THE earliest medical schools in America developed from private courses of anatomical lectures. The "first Anatomy in the country" was probably that which Giles Firmin, of Massachusetts, "did make and read upon very well," previously to the year 1647. Dr. William Shippen, Jr., of Philadelphia, and a pupil of John Hunter, gave, in 1762, in that city, the first full and systematic course of anatomical lectures, with dissections, ever given in America. He first held the chair of anatomy and surgery in the first medical college in America, the Medical College of Philadelphia, which was organized in 1765. The early anatomists had to contend with prejudices that at times were shown in mob violence. They were, moreover, wholly unprotected by law. Pennsylvania, New York, Virginia, Massachusetts, and New Hampshire all had medical schools previous to 1800. As late as 1782, when Dr. John Warren's private courses in anatomy had expanded into the organization since known as the Harvard Medical School, no one of the above-mentioned States had a law on its statute-books touching the dissection of the dead, or the desecration of their graves. New Hampshire passed a stringent act against grave-robbery in 1796, the year before the Dartmouth Medical School was organized. As time went on, several of the States, through the institution of medical societies, of which there were at least eight before 1800, and by the passage of laws to regulate medical practice, made ever-increasing demands on the colleges for sound teaching in anatomy. The utmost help given the anatomists was the occasional allowance of the body of a suicide or executed criminal. Massachusetts in 1784, New York in 1789, and New Jersey in 1798 passed acts to allow the courts to add dissection to the death penalty in certain cases. Virginia refused to do even that much, and Pennsylvania seems never to have legislated in the matter.

The legal status of anatomy in America, at the beginning of the century, is well illustrated by the Connecticut acts of 1810. At the May session of that year, it was made punishable, by a fine of at least one hundred dollars and imprisonment in the county jail for at least three months, for any one secretly to disinter the body of any deceased person for the purpose of dissection, or in any way to aid in so doing, or knowingly "to assist in any surgical or anatomical experiments therewith or dissections thereof." At the October session it was enacted that there should be a "medical institution of Yale College," one of whose four professors should teach anatomy, surgery, and midwifery; and that, as speedily as the college funds would allow, a collection of anatomical preparations should be provided.

The Province of Massachusetts Bay, in 1692, made it a felony, punishable with death, "to take up any dead man, woman, or child out of his, her, or their grave, or any other place where the dead body resteth, or the skin, bone, or any other part of any dead person, to be employed or used in any manner of witchcraft, enchantment, charm, or sorcery, whereby any person shall be killed, destroyed, wasted, consumed,

pined, or lamed in his or her body, or any part thereof." This act was merely a transcript of a portion of the English act of James I. against witchcraft, and was repealed by the privy council in 1695, because it failed to secure dower to the widow and inheritance to the children of the felon. The Massachusetts act of 1784 only authorized dissection of dead duelists as a mark of infamy; therefore, the New York act of 1789 must be considered as the first American anatomy act. This act was passed the year after the famous "Doctors' Mob" in New York city, and is entitled, An Act to prevent the Odious Practice of Digging up and Removing, for the Purpose of Dissection, Dead Bodies interred in Cemeteries or Burial Places. It comprises two sections. Section I. provides that any person convicted of removing any dead body from its place of sepulture, for the purpose of dissection or with intent to dissect, or of dissecting or assisting to dissect, such body, "shall be adjudged to stand in the pillory or to suffer other corporal punishment, not extending to life or limb, and shall also pay such fine and suffer such imprisonment as the court shall in their discretion think proper to direct." In Section II. it is further enacted, "In order that science may not in this respect be injured by preventing the dissection of proper subjects, that when any offender shall be convicted of murder, arson, or burglary, for which he shall be sentenced to suffer death, the court may, at their discretion, add to the judgment that the body of such offender shall be delivered to a surgeon for dissection." Massachusetts made the first considerable improvement on this New York act when in 1831, it passed a statute authorizing, under certain restrictions, the delivery to the anatomists of the unclaimed bodies "of deceased persons required to be buried at the public expense." Connecticut passed a liberal act, modeled on that of Massachusetts, 5th June, 1833, and repealed the same 5th June, 1834; not till 1871 did it again seek to promote anatomy. New York, in 1854, passed an anatomy act patterned, to some extent, on the Massachusetts act of 1831 and the English act of 1832. This act of 1854 was materially improved in 1879, in which year Indiana, Ohio, and Iowa also passed important anatomy acts.

Enactments similar to the New York act of 1789, Section I., have since been passed by the following States: Alabama, Arkansas, California, Connecticut, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin. Of the above-mentioned States, Kentucky, Oregon, Rhode Island, Texas, and West Virginia have no anatomy acts; while Rhode Island, Texas, and West Virginia have no medical schools. The laws of nine States, namely, Colorado, Delaware, Florida, Louisiana, Maryland, Nevada, New Jersey, North Carolina, and South Carolina, are, so far as the writer has been able to learn, silent regarding grave-robbery. While the Territories of Dakota, Utah, Washington, and Wyoming have laws for the protection of sepulchres, the District of Columbia has no such law, although one was inserted into the proposed code of 1857, which failed of adoption.

The second section of the New York act of 1789 has developed into the acts of twenty-four States. The following-named States have legalized dissection:

*Alabama, *Arkansas, California, *Colorado, *Connecticut, *Georgia, *Illinois, *Indiana, Iowa, *Kansas, *Maine, *Massachusetts, Michigan, Minnesota, *Missouri, *Nebraska, New Hampshire, *New Jersey, *New York, Ohio, Pennsylvania, *Tennessee, Vermont, and Wisconsin. The States whose names are starred in the above list make specific provision for the dissection of the bodies of certain deceased criminals, chiefly murderers. It is to be remarked that some of them make no other provision for anatomical science. The acts of the following States may be termed fairly liberal: Arkansas, California, Connecticut, Illinois, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Ohio, Pennsylvania, and Wisconsin.

The acts of Alabama, Colorado, Georgia, Maine, Missouri, Nebraska, New Jersey, Tennessee, and Vermont are illiberal.

In 1869 Maine enacted "that when any person convicted of crime dies or is executed in the state-prison or any jail, the warden or keepers shall, on request, deliver his body to instructors in medical schools established by law." In February, 1876, capital punishment was abolished; so that at present in Maine it is legal to dissect only the body of a person who "requests during his life that his body may be delivered to a regular physician or surgeon for the advancement of anatomical science, after his death, unless some kindred or friend within three days" asks to have it buried; or the body of a convict who has not at any time requested to be buried, and whose friends and kindred fail for three days after his death to ask for his burial.

The statute of Tennessee, unless it has been repealed since 1871, is quite as liberal as that of Maine. It provides that no penalty shall "apply to regular physicians to whom the bodies of criminals are delivered pursuant to law, or to dissection of slaves by consent of their masters, or of other persons by consent of their relatives."

The New York act of June 3, 1879, may be instanced as a type of the liberal class of American acts. It reads: "It shall be lawful in cities whose population exceeds 30,000 inhabitants, and in counties containing said cities, to deliver to the professors and teachers in medical colleges and schools in this State, and for said professors and teachers to receive, the remains or body of any deceased person for the purposes of medical and surgical study: provided that said remains shall not have been regularly interred, and shall not have been desired for interment by any relative or friend of said deceased person within twenty-four hours after death; provided, also, that the remains of no person who may be known to have relatives or friends shall be so delivered or received without the consent of said relatives or friends; and provided that the remains of no one detained for debt, or as a witness, or on suspicion of crime, or of any traveler, nor of any person who shall have expressed a desire in his or her last sickness that his or her body may be interred, shall be delivered or received as aforesaid, but shall be buried in the usual manner; and provided, also, that in case the remains of any person so delivered or received shall be subsequently claimed by any surviving relative or friend they shall be given up to said relative or friend for interment. And it shall be the duty of the said professors and teachers decently to bury in some public cemetery the remains of all

bodies after they shall have answered the purposes of study aforesaid; and for any neglect or violation of this provision of this act the party so neglecting shall forfeit and pay a penalty of not less than \$25 nor more than \$50, to be sued for by the health officers of said cities, or of other places, for the benefit of their department." An earlier law of New York forbids all traffic in subjects, or any use of them, except for anatomical purposes, under penalty of imprisonment in jail for not more than a year.

To summarize the legislation from 1789 to 1879, we may say that twenty-four States allow dissection; fifteen States have liberal anatomy acts, while nine have illiberal ones; the laws of fourteen States are silent regarding anatomy, excepting their laws on malpractice; twenty-eight States forbid the desecration of graves, while the laws of ten States are silent regarding it; the laws of six States are silent touching both dissection and disinterment; Dakota only of the eight Territories allows dissection; four Territories forbid exhumation, and four have no enactment regarding it; twelve States and one Territory require the burial of *cadavera dissecta*.

The District of Columbia occupies a unique position among the capitals of civilized states in that the studies of its anatomists and the graves of its dead are alike unprotected by statutory enactments. The United States government sends Washington resurrectionists to jail when it can; but it has recently utilized in the examinations before the Navy Board, in the city of Washington, as many as twelve subjects, which could be procured by stealth only.

The writer has endeavored to ascertain some facts as to the amount and cost of the dissection done in our American schools. There are no statistics on the matter. The following statement, based on the figures of the forthcoming report for 1878 of General Eaton, United States commissioner of education, and on such data as several of our prominent teachers of anatomy have kindly furnished, is put forth as a provisional one, in the hope that anatomists interested in the matter may coöperate to make it a full and accurate one. The total number of medical students of "all sorts" in the United States in 1878 was 11,837, showing an increase of 4894 since 1870. Of these 8286 were in attendance upon 915 instructors in 64 "regular schools," in 23 different States and the District of Columbia. In 9 States with liberal anatomy laws there were 22 schools, with 440 instructors and 4643 students. In 6 States and 1 district, with 14 schools and 141 instructors, there were 1337 students unprotected by law in the study of practical anatomy. In 8 States with illiberal or insufficient laws there were 27 schools, with 334 instructors and 2306 students. Kentucky, with 4 schools and 509 students, had no law. Ohio, with 7 schools and 877 students, had an illiberal law. The District of Columbia had 158 students in 3 schools, also 1 president of the United States and 1 Congress ditto, but no anatomy law. Maryland, with 2 schools and 349 students, Louisiana, with 1 school of 147 students, and South Carolina, with 1 school and 71 students, had no anatomy act, and no statute forbidding disinterment.

During the winter of 1879-80, in 7 medical schools, in 5 different States, there were 1566 students in attendance, of whom 1124 dissected, and 628 dissected more than one part. On the average the dissection of two parts is required for a degree. The average cost

of "a part" was \$1.79, the extremes being \$3.50 and nothing. The demonstrator's ticket is not reckoned in the cost per part. There were used 392 subjects, at an average cost of \$14.42 to the schools. The extremes of price for subjects were \$3.00 and \$50.00. Usually 5 students dissect on a single subject, but in one school 8, and in another 10, students work on the same subject, alternately reading and dissecting. Of the 392 subjects used, not more than 36 were used by students in making surgical operations on the cadaver. Three of the seven schools claim to prescribe such a course of operations; but, judging from the number of students who took it, it is a medical rather than a legal prescription. Of the 1124 students who dissected, using 133 subjects, 465 were unprotected by law in so doing. On the basis indicated above, it is computed that the 8286 students of the regular schools in 1878 should have had at their disposal 2058 subjects. The official returns show that in France, in 1876, there were 3399 subjects at the disposal of 5030 students.

It is possible within the limits of this article only to glance at the class of legislation under consideration. It is proposed, however, to give in future articles a fuller sketch of the early American anatomists; to consider in a more detailed fashion the history of the anatomy acts of Massachusetts and other States; to notice the peculiarities of the recent acts of Indiana, Iowa, Ohio, and Michigan; and to institute a comparison between the working of our American acts with that of the English, French, and German acts.

It may be stated here, however, that an act which should embody the best features of the best American acts, while it would compare favorably with the laws of Great Britain, would fall far short, in point of comprehensiveness and liberality, of the French laws which were in force nearly seventy years ago, not to speak of the French and German acts of to-day.

REGULATION OF THE PRACTICE OF MEDICINE IN THE UNITED STATES.

LITTLE has been done in this country until within a few years to exercise any control over the practice of medicine. Absolute freedom has been allowed every one who desired to take the responsibility of treating disease, even if he possessed no knowledge whatever. Indeed, it is a matter of record that the law has actually protected an individual from the results of his work on the plea of ignorance, thus showing an absence of evil intent. We give the more prominent of the laws which have been passed in different States. The California law resembles closely that of Illinois, a Board of Examiners being substituted for the Board of Health. The Vermont law resembles that of New Hampshire. Laws exist also in Alabama and Texas, and there is a diploma law in Pennsylvania:—

NEW YORK.

Chapter 513. An act entitled An Act to regulate the Licensing of Physicians and Surgeons. Passed May 29, 1880, three-fifths being present.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:—

Section I. A person shall not practice physic or surgery within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization, or is hereafter authorized so to do as prescribed by chapter seven hundred and forty-six

of the laws of eighteen hundred and seventy-two,¹ or by subsequent sections of this act.

Sect. II. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the first day of October, eighteen hundred and eighty, and every person hereafter duly authorized to practice physic and surgery, shall, before commencing to practice, register in the clerk's office of the county where he is practicing, or intends to commence the practice of, physic and surgery, in a book to be kept by said clerk, his name, residence, and place of birth, together with his authority for so practicing physic and surgery as prescribed in this act. The person so registering shall subscribe and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same, and by whom granted, which, if willfully false, shall subject the affiant to conviction and punishment for perjury. The county clerk to receive a fee of twenty-five cents for such registration, to be paid by the person so registering.

Sect. III. A person who violates either of the two preceding sections of this act, or who shall practice physic or surgery under cover of a diploma illegally obtained, shall be deemed to be guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than fifty dollars nor more than two hundred dollars for the first offense, and for each subsequent offense by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment for not less than thirty days nor more than ninety days, or both. The fine when collected shall be paid, the one half to the person or corporation making the complaint, the other half into the county treasury.

Sect. IV. A person coming to the State from without the State may be licensed to practice physic and surgery, or either, within the State, in the following manner: If he has a diploma conferring upon him the degree of doctor of medicine, issued by an incorporated university, medical college, or medical school without the State, he shall exhibit the same to the faculty of some incorporated medical college or medical school of this State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician or surgeon as said faculty may require. If his diploma and qualifications are approved by them, then they shall indorse said diploma, which shall make it for the purpose of his license to practice medicine and surgery within this State the same as if issued by them. The applicant shall pay to the dean of said faculty the sum of twenty dollars for such examination and indorsement. This indorsed diploma shall authorize him to practice physic and surgery within the State upon his complying with the provisions of Section II. of this act.

Sect. V. The degree of doctor of medicine lawfully conferred by any incorporated medical college or university in this State shall be a license to practice physic and surgery within the State after the person to whom it is granted shall have complied with Section II. of this act.

Sect. VI. Nothing in this act shall apply to commissioned medical officers of the United States army or navy, or of the United States marine hospital service. Nor shall it apply to any person who has practiced medicine and surgery for ten years last past, and who is now pursuing the study of medicine and surgery in any legally incorporated medical college within this State, and who shall graduate from and receive a diploma within two years from the passage of this act.

Sect. VII. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

STATE OF NEW YORK,
Office of the Secretary of State. } ss.:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom and of the whole of said original law.

JOSEPH B. CARR,
Secretary of State.

Chapter 746. An act relating to the examination of candidates for the degree of doctor of medicine. Passed May 16, 1872.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:—

Section I. The regents of the University of the State of New York shall appoint one or more Boards of Examiners in medicine, each board to consist of not less than seven members, who shall have been licensed to practice physic and surgery in this State.

Sect. II. Such examiners shall faithfully examine all candidates referred to them for that purpose by the chancellor of said university, and furnish him a detailed report in writing of all

¹ This chapter follows the act.

the questions and answers of each examination, together with a separate written opinion of each examiner as to the acquirements and merits of the candidates in each case.

Sect. III. Such examinations shall be in anatomy, physiology, materia medica, pathology, histology, clinical medicine, chemistry, surgery, midwifery, and in therapeutics, according to each of the systems of practice represented by the several medical societies of the State.

Sect. IV. The said reports of examinations and the annexed opinions of the examiners shall forever be a part of the public records of the said university, and the orders of the chancellor addressed to the examiners, together with the action of the regents, in each case, shall accompany the same.

Sect. V. Any person over twenty-one years of age, of good moral character, and paying not less than thirty-five dollars into the treasury of the university, and on applying to the chancellor for the aforesaid examination, shall receive an order to that effect, addressed to one of the Boards of Examiners, provided he shall adduce proofs satisfactory to the chancellor that he or she has a competent knowledge of all the branches of learning taught in the common schools of this State, and of the Latin language, and that he has diligently studied medicine not less than three years, under the direction of one or more physicians duly qualified to practice medicine, or has himself been licensed, on examination, by some medical society or college legally empowered to issue licenses or degrees in medicine.

Sect. VI. The regents of the university, on receiving the aforesaid reports of the examiners, and on finding that not less than five members of a board have voted in favor of a candidate, shall issue to him or her a diploma conferring the degree of doctor of medicine of the University of the State of New York, which degree shall be a license to practice physic and surgery.

Sect. VII. The candidate, on receiving said diploma, shall pay to the university the further sum of not less than ten dollars.

Sect. VIII. The moneys paid to the university, as aforesaid, shall be appropriated by the regents for the expenses of executing the provisions of this act.

Sect. IX. The regents may establish such rules and regulations, from time to time, as they may deem necessary to insure the faithful execution of the provisions of this act.

Sect. X. This act shall take effect immediately.

ILLINOIS.

The following is a full copy of An Act to regulate the Practice of Medicine in the State of Illinois. Approved May 29, 1877. In force July 1, 1877:—

Be it enacted by the people of the State of Illinois, represented in the General Assembly: Section I. That every person practicing medicine, in any of its departments, shall possess the qualifications required by this act. If a graduate in medicine, he shall present his diploma to the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners herein named, for verification as to its genuineness. If the diploma is found genuine, and if the person named therein be the person claiming and presenting the same, the State Board of Health, if such Board of Health shall be established by law, or the Board of Examiners, shall issue its certificate to that effect, signed by all of the members thereof, and such diploma and certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State. If not a graduate, the person practicing medicine in this State shall present himself before said board, and submit himself to such examinations as the said board shall require; and, if the examination be satisfactory to the examiners, the said board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

Sect. II. In case a State Board of Health shall not be established by law, then each State Medical Society incorporated and in active existence on the first day of July, eighteen hundred and seven-seventy, whose members are required to possess diplomas or licenses from some legally chartered medical institution in good standing, shall appoint, annually, a Board of Examiners consisting of seven members, who shall hold their offices for one year, and until their successors shall be chosen. The examiners so appointed shall go before a county judge and make oath that they are regular graduates, or licentiates, and that they will faithfully perform the duties of their office. Vacancies occurring in a Board of Examiners shall be filled by the society appointing it by the selection of alternates, or otherwise.

Sect. III. The State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall

organize within three months after the passage of this act; they shall procure a seal, and shall receive through their secretary applications for certificates and examinations; the president of each board shall have authority to administer oaths, and the board take testimony in all matters relating to their duties; they shall issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing; they shall prepare two forms of certificates, one for persons in possession of diplomas or licenses, the other for candidates examined by the board; they shall furnish to the county clerks of the several counties a list of all persons receiving certificates. In selecting places to hold their meetings, they shall, as far as is reasonable, accommodate applicants residing in different sections of the State, and due notice shall be published of all their meetings. Certificates shall be signed by all the members of the board granting them, and shall indicate the medical society to which the examining board is attached.

Sect. IV. Said State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall examine diplomas as to their genuineness, and if the diploma shall be found genuine as represented, the secretary of the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall receive a fee of one dollar from each graduate or licentiate, and no further charge shall be made to the applicants; but if it be found to be fraudulent, or not lawfully owned by the possessor, the board shall be entitled to charge and collect twenty dollars of the applicant presenting such diploma. The verification of the diploma shall consist in the affidavit of the holder and applicant that he is the lawful possessor of the same, and that he is the person therein named. Such affidavit may be taken before any person authorized to administer oaths, and the same shall be attested under the hand and official seal of such officer, if he have a seal. Graduates may present their diplomas and affidavits as provided in this act, by letter or by proxy, and the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall issue its certificate the same as though the owner of the diploma was present.

Sect. V. All examinations of persons not graduates or licentiates shall be made directly by the board, and the certificates given by the boards shall authorize the possessor to practice medicine and surgery in the State of Illinois.

Sect. VI. Every person holding a certificate from the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, shall have it recorded in the office of the clerk of the county in which he resides, and the record shall be indorsed thereon. Any person removing to another county to practice shall procure an indorsement to that effect on the certificate from the county clerk, and shall record the certificate, in like manner, in the county to which he removes, and the holder of the certificate shall pay to the county clerk the usual fees for making the record.

Sect. VII. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of the issue and the name of the medical society represented by the State Board of Health, if such Board of Health shall be established by law, or Board of Examiners issuing them. If the certificate be based on a diploma or license, he shall record the name of the medical institution conferring it, and the date when conferred. The register of the county clerk shall be open to public inspection during business hours.

Sect. VIII. Candidates for examination shall pay a fee of five dollars, in advance, which shall be returned to them if a certificate be refused. The fees received by the board shall be paid into the treasury of the medical society by which the board shall have been appointed, and the expenses and compensation of the board shall be subject to arrangement with the society.

Sect. IX. Examinations may be made in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

Sect. X. The State Board of Health, if such Board of Health shall be established by law, or Board of Examiners, may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the body appointing the board.

Sect. XI. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall profess publicly to be a physician and to prescribe for the sick, or who shall append to his name the letters of "M. D." But nothing in this act shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in cases of emergency. And this act shall not apply to commissioned surgeons of the United States army and navy.

Sect. XII. Any itinerant vender of any drug, nostrum, ointment, or appliance of any kind, intended for the treatment of disease or injury, or who shall, by writing or printing, or any other method, publicly profess to cure or treat diseases, injury, or deformity by any drug, nostrum, manipulation, or other expedient, shall pay a license of one hundred dollars a month, to be collected in the usual way.

Sect. XIII. Any person practicing medicine or surgery in this State without complying with the provisions of this act shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days, nor more than three hundred and sixty-five days, or by both such fine and imprisonment, for each and every offense; and any person filing or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and upon conviction shall be subject to such fine and imprisonment as are made and provided by the statutes of this State for the crime of forgery; but the penalties shall not be enforced till on and after the thirty-first day of December, eighteen hundred and seventy-seven: *Provided*, That the provisions of this act shall not apply to those that have been practicing medicine ten years within this State.

[The Board of Health was established by law approved May 25, 1877, which took effect July 1, 1877.]

NEW HAMPSHIRE.

General Laws relating to the Practice of Medicine, Surgery, Dentistry, and Pharmacy.

Chapter I. Practice of medicine, surgery, and dentistry.

Section I. Physicians and surgeons not to practice without license from medical society. Sect. II. Medical societies to examine and license. Sect. III. Dentists not to practice without dental degree or license of New Hampshire Dental Society. Sect. IV. Society shall examine and license. Sect. V. License recorded, where. Sect. VI. Fees for licenses. Sect. VII. Penalty for practicing without lawful authority. Sect. VIII. Law not applicable, when.

Section I. It shall not be lawful for any person to practice medicine, surgery, or midwifery, unless such person shall have obtained a license from some medical society organized under the laws of this State, stating that he is qualified in the branches of the medical profession named in said license.

Sect. II. Every medical society, organized under the laws of this State, shall, at such time and in such manner as may be prescribed in its charter or by-laws, elect a board of censors, consisting of three members, who shall be elected for such term as may be prescribed in said charter or by-laws, which board shall have authority to examine and license persons to practice medicine, surgery, or midwifery.

The board shall issue licenses without examination to all persons who furnish evidence by diploma from some medical school authorized to confer degrees in medicine and surgery, when said board is satisfied that the person presenting such diploma has obtained it after pursuing some prescribed course of study and upon due examination.

Said board shall also have power, upon due notice and hearing, to revoke any license granted by said board, when improperly obtained, or when the holder has, by conviction for crime, or any other cause, ceased to be worthy of public confidence.

Such license or revocation shall be recorded by the clerk of said medical society.

Sect. III. It shall not be lawful for any person who is not duly authorized to practice medicine or surgery to practice dentistry, unless such person has received a dental degree from some college, university, or medical school authorized to confer the same, or shall have obtained a license from the New Hampshire Dental Society.

Sect. IV. Said dental society shall, at such time and in such manner as may be prescribed in its charter or by-laws, elect a board of censors, consisting of three members, who shall be elected for such term as may be prescribed by the society, which board shall have authority to examine and license persons to practice dentistry. The license shall be recorded by the clerk of said society.

Sect. V. No person receiving a license as herein provided shall be authorized to practice until he shall have procured the same to be recorded by the clerk of the court in the county where he resides, if a resident of this State; if not a resident of this State, in the county where he intends to practice.

Such licenses shall be recorded in a book provided for that purpose, and which shall bear the title and inscription of the medical and dental register of — county, and the fee for recording the same shall be fifty cents.

Sect. VI. Each person receiving a license upon examination shall pay for the use of the society granting the same the sum of five dollars; upon diploma, one dollar.

Sect. VII. If any person shall practice medicine, surgery, midwifery, or dentistry, without being duly authorized as provided in this chapter, or after his license is revoked, he shall be punished by a fine of not more than three hundred dollars for each offense.

Sect. VIII. The provisions of the preceding sections shall not apply to persons who have resided and practiced their profession in the town and city of their present residence during all the time since January first, eighteen hundred and seventy-five, nor to physicians residing out of the State, when called into the State for consultation with duly licensed physicians, or to attend upon patients in the regular course of business.

Chapter 2. Sale of drugs and medicine.

Chapter 3. Advancement of anatomical and surgical science.

PENNSYLVANIA.

No. 55. An Act to regulate the Practice of Medicine, Surgery, and Obstetrics in the Commonwealth of Pennsylvania.

Section I. *Be it enacted, etc.*: That the standard qualifications of a practitioner of medicine, surgery, and obstetrics, or of any one who may attempt to practice, singly or jointly, medicine, surgery, or obstetrics, shall be and consist of the following, namely:—

A comprehensive and practical knowledge of human anatomy, human physiology, pathology, chemistry, materia medica, obstetrics, practice of medicine and surgery, and public hygiene, and a good moral character.

Sect. II. The possession of a diploma, regularly issued by a medical school acting under a charter from this or other State or country, shall constitute the sufficient license for the person to whom such diploma is granted to practice, singly or jointly, medicine, surgery, or obstetrics, as set forth and empowered in said diploma: *Provided, however*, that a diploma that has been or that may hereafter be granted for a money consideration, or other article of value alone, or that has been or may hereafter be granted to any one who has not pursued the usual course of studies required by a legally chartered medical school, shall not be considered as a sufficient qualification under this act.

Sect. III. Any practitioner who may not have a diploma, as provided for in section two of this act, and who may not be qualified, as hereinafter provided, shall have the privilege of applying to the prothonotary of the court of common pleas of the judicial district in which such applicant resides for an examination in the branches of medical science and art, set forth in section one of this act; whereupon it shall be the duty of such court to appoint a committee or committees, consisting each of three respectable practitioners of medicine of the school of practice recognized in this commonwealth, to which such applicant or applicants may profess to belong, and shall fix the time and place of holding such examinations.

Each of said applicants, before being admitted to examination, shall deposit with such committee the sum of fifteen dollars (\$15), which money shall be equally divided among them, for which they shall give a receipt; it shall be the duty of such committee or committees to convene at any time upon the call of an applicant or applicants for examination; it shall be the duty of such committee, when the said applicant is found to be qualified, as set forth in section one of this act, to grant to such applicant a certificate, and said certificate shall be the sufficient license for the person to whom it is granted to open an office in this commonwealth for the practice of medicine, surgery, or obstetrics; it shall further be the duty of such committee to appear before the clerk of such court and take an oath or affirmation that they have not taken and will not receive, directly or indirectly, any other compensation for instituting such examination than that which is herein provided.

Sect. IV. Any person who has attended one full course of lectures in any respectable school of medicine recognized by law, and has been a resident practitioner of medicine, surgery, or obstetrics in this commonwealth five years previous to the passage of this act, is hereby authorized to pursue the same. Any person who has been in the continuous practice of medicine, surgery, or obstetrics for ten years in this commonwealth shall be and is hereby authorized to pursue the same.

Sect. V. Any person who shall attempt to practice medicine or surgery, by opening a transient office within this commonwealth, or who shall, by handbill or other form of written or printed advertisements, assign such transient office or other place to persons seeking medical or surgical advice or prescription, shall, before being allowed to practice as aforesaid, appear

before the clerk of the court of quarter sessions of the county wherein said practitioner shall attempt to practice, and shall furnish satisfactory evidence to such clerk that the provisions of this act have been complied with, and shall, in addition, take out a license for one year, and pay into the county treasury, for the use of such county, the sum of two hundred dollars therefor, whereupon it shall be the duty of such clerk to issue to such applicant a proper certificate of license, on payment of the fee of two dollars for his services: *Provided, however,* that the announcement of name, title, and place of business by card, or announcement of name, title, and place of business in newspaper or other periodical, shall be sanctioned as legitimate, and is so approved by this act.

Sect. VI. Any person violating the provisions of this act shall be deemed guilty of a misdemeanor, and on conviction shall be sentenced to pay a fine not exceeding five hundred dollars, for the use of the county wherein such misdemeanor is committed, or imprisonment not exceeding one year, or both, at the discretion of the court; any person so convicted shall not be entitled to any fee for services rendered, and if a fee shall have been paid, the patient, or his or her heirs, may recover the same as debts of like amount are now recoverable by law.

Approved, the 12th day of April, A. D. 1875.

TEXAS.

Extract from Civil Code of the State of Texas, adopted by the legislature, to take effect from September 1, 1879.

Title LXXIII. Physicians. Article 3625. The presiding judges of the district courts of the several judicial districts of this State shall, as soon as practicable, severally appoint a board of medical examiners for their respective districts, which appointment shall be in writing and signed by the judge making the same, and delivered to the person appointed.

Art. 3626. Said board of medical examiners shall be composed of not less than three practicing physicians of known ability, who are graduates of some medical college recognized by the American Medical Association, and who are residents of the district for which they are appointed.

Art. 3627. The appointment of a member of a board of medical examiners shall continue for two years from the date of such appointment.

Art. 3628. The board shall, immediately after appointment, select one of their number president and one secretary, and adopt all necessary rules for the guidance and control of their meetings.

Art. 3629. Said boards shall meet regularly, semi-annually, at some central point in their respective districts, to conduct examinations and grant certificates as hereinafter provided, and they shall give at least one month's public notice of the time and place of their meeting, by publication in at least one newspaper published in the district in which such meeting is to be held.

Art. 3630. Each and every one of such boards shall procure a seal as soon as practicable after their organization, which seal shall be impressed upon every certificate granted.

Art. 3631. Whenever a vacancy occurs in any of said boards, the same shall be filled by appointment by the judge of the district in which such vacancy occurs.

Art. 3632. It shall be the duty of said board to examine thoroughly all applicants for certificates of qualification to practice medicine in any of its branches or departments in this State, whether such applicants are furnished with medical diplomas or not, upon the following named subjects, to wit: anatomy, physiology, pathological anatomy and pathology, surgery, obstetrics, and chemistry; but no preference shall be given to any school of medicine.

Art. 3633. When the board shall be satisfied as to the qualifications of an applicant, they shall grant him a certificate to that effect, which certificate shall entitle the person to whom granted to practice medicine in any county in this State, when the same has been recorded as required by Article 3635.

Art. 3634. Any two of the members of such board of medical examiners may grant a certificate of qualification to an applicant, and any member of said board shall have authority to grant a temporary certificate to an applicant upon examination until the next regular meeting of the board, at which time the temporary certificate shall cease to be of force.

Art. 3635. The certificate provided for in the two preceding articles shall, before the person to whom it is granted is entitled to practice by virtue thereof, be recorded in the office of the clerk of the county court of the county in which such practitioner may reside or sojourn, in a well-bound book to be kept by the clerk for that purpose; and when so recorded the clerk shall certify thereon under his official seal the fact and date of such re-

cord, and shall return such certificate to the person to whom the same was granted, and shall be entitled to demand and receive for such service, from the holder of such certificate, the sum of one dollar.

Art. 3636. The board shall be entitled to demand and receive from each applicant examined the sum of fifteen dollars, whether a certificate be granted to such applicant or not.

Art. 3637. The provisions of this title shall not apply to the following persons: (1.) To those who may have been already qualified for the practice of medicine under an act entitled An Act to regulate the Practice of Medicine, passed May 16, 1873. (2.) To those who have been regularly engaged in the general practice of medicine in this State or in any of its branches or departments for a period of five consecutive years prior to the first day of January, 1875. (3.) To females who follow the practice of midwifery strictly as such.

Art. 3638. No person, except those named in the preceding article, shall be permitted to practice medicine in any of its branches or departments in this State without having first obtained and recorded a certificate of qualification from some authorized board of medical examiners, as hereinbefore provided; and any person so offending shall be punished as provided in the Penal Code.

Extract from the Penal Code of the State of Texas:—

Title XII. Chapter three. Unlawful Practice of Medicine.

Article 396. If any person shall practice medicine in this State in any of its branches or departments, or offer or attempt to practice, without first having obtained a certificate of professional qualification from some authorized board of medical examiners, he shall be punished by a fine of not less than fifty nor more than five hundred dollars.

Art. 397. Each patient visited or prescribed for, or each day's offer to practice, shall constitute a separate offense under the preceding article.

Art. 398. If any person shall hereafter engage in the practice of medicine in any of its branches or departments, without having first filed for record with the clerk of the district court of the county in which such person may reside or sojourn a certificate of professional qualification from some authorized board of medical examiners, he shall be punished as prescribed in Article 396.

Art. 399. The provisions of this chapter shall not apply to any person who has been regularly engaged in the general practice of medicine, or in any of its branches or departments in this State, for five consecutive years prior to January 1, 1875; nor to any person who may have legally qualified himself to practice medicine under the provisions of an act entitled, Act to regulate the Practice of Medicine, passed May 16, 1873; nor to any female who may follow the practice of midwifery strictly as such.

Adopted and went into effect on September 1, 1879.

THE NEW YORK AND BROOKLYN MEDICAL SCHOOLS.

COLLEGE OF PHYSICIANS AND SURGEONS. MEDICAL DEPARTMENT OF COLUMBIA COLLEGE.

SOME important changes are announced at this college. The spring session has been discontinued, and all the exercises of the school henceforth are to take place during one continuous session; so that, instead of a spring session and a succeeding winter session of five months' length, which have hitherto made up the collegiate year, this will now consist of a single session of somewhat over seven months in length, which, beginning with the collegiate year of 1880-81, will commence upon the first of October and end during the first part of May. The only intermissions in the lectures will be for three days at Thanksgiving and one week at Christmas. Thus, for a "required" session of five months and an "optional" session of two and a half months, there will be substituted a "required" session of seven months. This session is not merely an extension of the winter session, with the same amount of stated exercises per week; but the number of didactic and other stated exercises each week has been diminished, at the same time that the course has been lengthened, for the purpose of allowing more time for

laboratory and hospital work, recitations, and private study. This the faculty regards as a very valuable change, since heretofore, owing to the shortness of the session, the student's day has been too crowded for his good with stated exercises.

The omission from the scheme of exercises of several didactic lectures a week will render it possible for the recitations conducted by the corps of examiners to be held almost entirely during the day-time instead of in the evening, as previously. This corps for the ensuing year is as follows: surgery, Dr. John G. Curtis; anatomy, Dr. William T. Bull; physiology, Dr. George B. Fowler; obstetrics and diseases of women and children, Dr. Frank E. Beckwith; chemistry, Dr. Edward G. Love; materia medica and therapeutics, Dr. Charles S. Ward; practice of medicine, Dr. George L. Peabody.

After the first of May, beginning immediately at the close of the course of lectures, the examinations will occur, and the commencement exercises will henceforth be held about the middle of May, instead of at the end of February. As has been the case for some time at this school, all the examinations for the degree of M. D. will be conducted entirely in writing, and no candidate will be allowed to graduate until he shall have passed a satisfactory examination in each and all of the seven branches. The candidate is "conditioned" when the average merit of his thesis and examinations has been satisfactory, while in one or more branches he has been found deficient; in which case he can proceed to his degree only on the condition that he first pass a re-examination in the deficient branch or branches, not sooner than at the next regular semi-annual examination. The candidate is "rejected" when the average merit of his thesis and examination has been unsatisfactory, and in this case he must be re-examined in all the seven branches, although the writing of a new thesis is rarely required.

The college authorities state that the prospects of the institution were never better than at present. The usual prizes are announced, and the first award of the Cartwright Prize of the Alumni Association, which consists of five hundred dollars, and is offered for competition in alternate years with the Alumni Association Prize, will be made at the commencement, 1881. The next award of the Stevens Triennial Prize, which is open for universal competition, but which is given to no essay which does not include the results of original research, will be made in 1882, and the subjects (of which either may be chosen) are as follows:—

(1.) Lesions of the Brain in Connection with the two Forms of Diabetes.

(2.) Diphtheria in its Relations to Membranous Croup.

Among the changes in the faculty are the following: Dr. William H. Draper has been appointed professor of clinical medicine instead of dermatology, and Dr. George H. Fox has been appointed clinical lecturer on diseases of the skin.

BELLEVUE HOSPITAL MEDICAL COLLEGE.

The changes announced in the curriculum at this school consist mainly of an *obligatory* course of three full sessions at the college, instead of the optional three years' course, of certain requirements for matriculation, of obligatory practical work in chemistry and histology, as well as in dissections, and of more thorough practical training in practice of medicine, surgery,

and gynecology during the last year. When the student has attended two full courses of lectures upon all the subjects taught in the college, and has passed his examinations in materia medica, physiology, anatomy, and chemistry, he is to be brought more closely into contact with cases during his third course, and will be required to begin then to exercise for himself his judgment in the diagnosis and treatment of disease as a final preparation for his professional life. In these clinical exercises the class, which will be divided into sections of convenient size, will be brought directly in contact with patients, and will be required, under the direction of the professors, to diagnose diseases and indicate treatment; while the instruction in surgery will be supplemented with operations on the cadaver performed by members of the class.

The faculty state that for several years they have endeavored to induce students to attend three courses of lectures (passing their examinations in the elementary departments at the close of the second session), and that those who have followed this course have shown in their examinations a grade of qualification so much higher than the standard usually attained by students under the old system that it has been thought advisable to make the three years' course obligatory.

The ordinary matriculation examination will consist of English composition, grammar, arithmetic (including vulgar and decimal fractions), algebra (including simple equations), and geometry (first two books of Euclid); but this examination will be waived in the case of those who have received the degree of A. B., those who have passed the freshman examination for entrance into any incorporated literary college, those who present certificates of proficiency in the subjects of the matriculation examination from the principal or teachers of any reputable high school, and those who have passed a matriculation examination at any recognized medical college, or at any scientific school or academy in which an examination is required for admission.

Among the requirements for graduation are the following: attendance upon three full courses of lectures, the last being at the Bellevue College, certificates of at least one course each of practical anatomy, practical medical chemistry, and practical physiological and pathological histology, and a satisfactory examination in each of the seven regular departments of instruction; the examinations upon practice of medicine and surgery to include diseases of the nervous system, pathological anatomy, ophthalmology, and diseases of the skin. The examinations for students who take the full course of three years are as follows: *First year.* Physics and inorganic chemistry, descriptive anatomy, materia medica. *Second year.* Organic and physiological chemistry, general and surgical anatomy, physiology, therapeutics. *Third year.* Practice of medicine, surgery, obstetrics, and diseases of women and children. The fee for each yearly examination is ten dollars, and before the final examination for the third year candidates must present certificates from recognized teachers of one course of instruction in each of the practical studies mentioned above. Candidates who fail in one only of the branches for examination for the first or second year will be permitted to pass on to the studies of the succeeding year, and to make up the branch upon which they failed in their previous examinations. Candidates who fail in more than one branch in the examinations for the first or second year

will be put back one year, but they will not be required to pay more than the regular fees for the three years.

Graduates of other recognized medical colleges and students who have attended two full courses of lectures or two full years at other recognized medical colleges that have a compulsory graded course, who are candidates for graduation, will be required to pass a full examination at the close of the session upon all branches examined upon for the three years, and all, including graduates of other medical colleges, irrespective of the date of their graduation, will be required to pay the fee for the third year, which is one hundred dollars. Students who have attended one full course or the first year of a compulsory graded course at any other recognized medical college will be admitted as second-year students; but all such will be required to submit to the conditions of the matriculation examination, and to pass, at the end of the session, an examination upon the branches examined upon for the first and second years.

Students are expected to attend all the lectures, including clinics, for the first two years. During the third year they are expected to attend all the clinics, but they may confine their attendance upon the didactic lectures to the branches upon which they are to pass their final examinations; by which means time can be obtained for practical work in the dissecting-room and the chemical and pathological laboratories, and for practical clinical exercises in medicine, surgery, and gynecology. Students are expected to attend regular weekly recitations, held by members of the faculty during each session, in the branches upon which they are to be examined at the close of the session, and for those who attend the full course of instruction at the college for three years the regular examinations at the close of each of the three sessions are obligatory.

Clinical instruction, in connection with the regular didactic courses, will remain as the distinguishing feature of the curriculum, beginning with the first course and continuing without interruption during the entire three years; and great advantages are claimed in this respect on account of the large amount of material at the command of the lecturers. The faculty remains substantially unchanged this year, and there will be the regular winter and spring sessions as heretofore. The present indications are that the incoming class will be but little if at all affected in numbers by the new requirements, although it is probable that there will not be quite so many graduates of other colleges of more than three years' standing in attendance during the session as usual, since these will now be required to pay one hundred dollars for the course of lectures, instead of merely the five dollars matriculation fee, as formerly.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

The University school continues its policy of endeavoring to keep its various departments as fully as possible up to the most modern ideas and methods of teaching and practice. Its building, which was erected at a cost of \$140,000, is the newest of any of the medical colleges, and is fitted up with the most approved appliances for instruction and practical study; while it has the same advantage as the Bellevue School of proximity to the great Bellevue and Charity hospitals. The comfort and health of the students are also a mat-

ter of solicitude on the part of the faculty, who do all that they can to secure to them "sound minds in sound bodies." The system of weekly examinations by the various professors, which was established three years ago, has produced such good results in improving the preparation of the students for their work that they will be continued during this winter; while the method of written examinations for the degree of M. D., which was followed in some of the departments at the close of the last session, was found to be so satisfactory both to the students and the professors that it will be adopted in all the departments hereafter. It is believed that this gives the student a much better opportunity to do justice to his knowledge than the plan of oral examinations. With a view to the establishment of a systematic, graduated scheme of tuition, students who have attended two full courses of lectures, and who have completed two years of study, may be admitted to examination in chemistry, anatomy, and physiology, and, if successful, will be examined in practice, materia medica and therapeutics, surgery and obstetrics, at the expiration of their full course of study; but those who prefer it may have all their examinations at the close of their full term.

In order to stimulate the efforts of the students, three prizes, in addition to the Mott medals, are to be given by the faculty at the close of the present session, namely:—

I. A prize of five hundred dollars to the candidate whose general scholastic standing is the highest, as shown by the record of his final examination for the degree of M. D.

II. A prize of five hundred dollars to be awarded to the candidate who shall pass the best competitive examination in the seven general departments, the conditions being as follows:—

(1.) Each competitor must have attended two or more full courses of lectures in the University.

(2.) The faculty will select from the graduating class ten candidates, whose marks for the degree are the highest, and only these will be permitted to enter into the competition.

(3.) These examinations shall be conducted in public, and they may be oral or written, at the discretion of the faculty.

(4.) The candidate who receives the first-named prize for general scholastic standing shall not be allowed to compete for this prize or the following.

III. A prize of two hundred dollars will be awarded to the candidate who shall pass the second-best examination in the above competition.

The prospects of the college appear to be very encouraging, and the dean of the faculty expresses the opinion that the class of last session, which consisted of over six hundred students, and was the largest medical class in the United States, bids fair to be even outnumbered by that of the present session. Dr. James L. Little, heretofore connected with the College of Physicians and Surgeons, now assumes the position of clinical professor of surgery in the faculty of the post-graduate course at the University. The collegiate year is divided, as before, into three sessions,—the spring session, the preliminary winter session, and the regular winter session,—the whole embracing a period of about eight and a half months. The spring session is devoted to clinical teaching, lectures on various "specialties," and recitations, and it extends for nearly three months after the close of the winter session; while the

preliminary winter session occupies the two weeks preceding the opening of the regular session. The lectures in this term, both clinical and didactic, are the same in number and order as during the winter session, and are given by the professors of the regular and post-graduate faculties; the subjects of the lectures being introductory to those of the regular course. The post-graduate course consists of clinical lectures delivered during the winter and spring sessions by the several professors of the post-graduate faculty, in Bellevue and Charity hospitals and in the college.

LONG ISLAND COLLEGE HOSPITAL, BROOKLYN.

The faculty of this institution have carried out many changes during the last few years, and it is claimed that great progress has been made, so that the course of study is believed to be as complete as any in the country. "In the Long Island College Hospital," says Prof. Jarvis S. Wight, in the last introductory lecture delivered at the school, "we divide our class of advanced students into as many sections as we have practical departments. One section is drilled one week in one department, and another week in another department, and so on through all the departments again and again. In the mean time every other section is going through the same process of rotation. The stethoscope and the tape-line are put into the hands of the student. He listens and measures; he studies the clinical facts of medicine and surgery on the living subject; and day after day he works the substance of these facts into his mental constitution. He observes, he thinks, he educates himself,—and this is the way doctors are made in these halls. In this place there is no royal road to the profession, any more than there is a royal road in the profession. And when men who have been well drilled in this kind of clinical medicine come up for their final examination we find that they have their professional house built on a rock, and that their work after they leave this place is honorable, salutary, and safe. . . . We have established a three years' course of recitations and lectures. During one half of the collegiate year the student is drilled in the elements of medicine by competent teachers. During the other half of the collegiate year the student hears lectures and is daily examined on what he learns. And when the student has mastered the elements of medicine he is taught clinical medicine in the way already described. This simple and efficient plan of instruction has been in operation in this school for a number of years. The success has been very encouraging. We began this system with only about five students. The number has increased from year to year, until we have now about fifty students pursuing a systematic three years' course of study."

The Long Island College Hospital was organized for the purpose of practically uniting a hospital and a medical school, and the founders have matured the plan and practically carried it out to an extent which they believe unequalled by any other school in this country. The success of this plan, it is thought, depends mainly on two important factors:—

(1.) The hospital is under the immediate control of the regents and council of the college, and is therefore available at all times for practical instruction.

(2.) The courses of instruction are given in the hospital building, so that the student, without loss of time, is brought in direct contact with the patients.

The faculty claim that they are "thus able to make

clinical teaching a *reality* in the only possible way in which it can be of practical value to the student, namely, by cultivating his faculties of observation *at the bedside*. Mere amphitheatre teaching must, from the very nature of clinical study, fail to accomplish work that can only be done in the wards of a hospital."

The collegiate year embraces a reading and recitation term (which begins this year October 4th), and a regular session (which begins February 2, 1881) and continues five months; but only the regular session is obligatory upon candidates for graduation. The students of the reading term are classified in three grades, each grade corresponding to one year's study.

Grade 1. Students who have studied one year, and attended the full reading and regular sessions, may be admitted to the regular examinations on elementary chemistry, osteology, normal histology, and materia medica.

Grade 2. Students who have attended both courses for two full years may be admitted to such of the above examinations as they have not already passed, and also to examination on descriptive anatomy, physiology, therapeutics, analytical chemistry, and general pathology.

Grade 3. Students who have passed successfully the examinations of grades one and two shall belong to the third grade. About one half the students now attend this full three years' graded course; but it is the intention of the council and faculty to make this course (which is at present voluntary and elective for the student) at an early period a *requirement* for graduation.

For the purpose of carrying out more fully the objects of clinical instruction, and thereby perfecting the system of *demonstrative* teaching, the faculty have adopted the plan of dividing the senior class into sections of ten or more, who accompany the clinical teacher in his daily hospital service; and by this plan of constant rotation of classes from the medical to the surgical wards of the hospital they believe that the student receives the largest possible amount of instruction daily in all the practical branches. This mode of teaching, it is claimed, is peculiar to the Long Island College Hospital. The faculty also adhere to daily class examinations, having found by experience that the plan of constant class-room drill encourages exact knowledge and habits of close attention; while in its practical results it is superior to the system of lectures alone.

The registrar of the college writes, "The outlook for our school is better to-day than ever before. We mean real reform in medical education, and time will vindicate us."

MEDICAL SCHOOLS OF PHILADELPHIA.

AMONG the world's great medical centres of modern times Philadelphia has for many years occupied an important and influential position. Nearly twenty thousand physicians have graduated in that city. To Philadelphia belongs the honor of having established the first medical school upon this continent. In 1765 the Medical Department of the University of Pennsylvania was organized by Drs. John Morgan and William Shippen, under the authority of the board of trustees of the university and the recommendation of the proprietary of the State. It was closely modeled upon the methods pursued at the University of Edinburgh, the trustees declaring that "their scheme of

medical education was to have as extensive and liberal a plan as in the most respectable European seminaries, and that the utmost provision was made for rendering a degree a real mark of honor, the reward only of distinguished learning and abilities." In order to show how sincere were these strivings for higher medical education we quote the requirements that were then thought essential in order to obtain the degree of doctor in medicine. It was enacted "that all such students as have not taken a degree in any college shall, before admission to any degree in physic, satisfy the trustees and professors of the college concerning their knowledge of the Latin tongue, and in such branches of mathematics, natural and experimental philosophy, as shall be judged requisite to a medical education." Two grades of degrees in medicine were established. For the lower of these, that of bachelor of medicine, the student was required to serve a sufficient apprenticeship with some reputable physician; to have a general knowledge in pharmacy; to attend at least one complete course of lectures, and to follow the practice of a general hospital for one year. After having shown his fitness at a private examination, he was then admitted to a public examination for the bachelor's degree. To obtain the degree of doctor of medicine it was necessary that the applicant should have been a bachelor of medicine for at least three years, should have attained the age of twenty-four years, and should write and defend a thesis publicly in the college.¹

Owing to many circumstances beyond the control of the trustees and faculty, or the pressure of circumstances too powerful to be successfully resisted, the requirements for the degree in medicine, in the course of years, were gradually made less stringent by the authorities, but they have always succeeded in maintaining a relatively high standard among medical schools of this country for the Medical Department of the University of Pennsylvania. In 1876 the term of study was extended from two years to three, and the course was graded. At the present session a further reform and great step in advance was made by re-establishing the preliminary examination, or requiring in lieu thereof the presentation of a certificate of graduation or an academical degree, as an evidence of fitness for entering upon the medical studies.

Jefferson Medical College was chartered in 1825, as the Medical Department of Jefferson College at Canonsburg, Penn. It has long outlived the parent institution, but continues to flourish under its university charter, the right to which it usually asserts once a year by granting honorary degrees of doctor of divinity, and more rarely of doctor of laws, to distinguished individuals recommended by the board of trustees, but no honorary degree in medicine is ever granted by Jefferson College, upon the occasion of the annual commencement. Jefferson College for many years has been in a most flourishing condition, and claims to have at the present time a larger number of living graduates than any other college in the country, and certainly has a larger number of students now in attendance upon the lectures than any other American college.

Both of the above-named institutions have large general hospitals connected with them which are well adapted to their purpose, commodious, clean, and well

¹ From an Address on Higher Medical Education the True Interest of the Public and of the Profession. By William Pepper, Professor of Clinical Medicine, University of Pennsylvania. Philadelphia. 1877.

ventilated, and furnished with the latest appliances for the treatment of the sick and maimed and for clinical teaching. In all, Philadelphia has twenty hospitals and at least ten dispensaries, and thirty-eight other charitable institutions with which infirmaries are connected; many of these are devoted to specialties. Before considering the curriculum of the schools more in detail, it is proper to devote some attention to the Pennsylvania Hospital, which has served a highly useful purpose, and taken an honorable part in the history and development of medical education in this country. In 1751, through the persistent efforts of some charitably disposed citizens, a charter was obtained from the proprietary for a hospital for "the sick poor and the reception and cure of the insane," which was opened in this city in 1752. This institution has always been characterized by the economical management of its funds, and the faithfulness of the officers charged with the administration of its important trusts. Upon its staff have been some of the most prominent physicians and surgeons in Philadelphia. Early in its existence the clinical material found in the wards was utilized for the benefit of science. Attracted to the hospital by its growing reputation, even before the establishment of the medical department of the university, students were found in attendance upon the practice of the house. Dr. John Fothergill presented, in 1762, a medical book to the hospital "for the benefit of the young students in physic, who may attend under the direction of the physicians;" this book afterwards was the nucleus of a library, which is now one of the great medical libraries of this country, the Medical Library of the Pennsylvania Hospital. The hospital, before the establishment of the regular schools, took "apprentices," as they were called, and subsequently gave them a certificate of attendance upon the practice of the house. At the present time free medical and surgical clinics are held twice a week for students from the University and Jefferson Colleges and physicians, on Wednesday and Saturday from ten to twelve o'clock, and there is also a clinic to female students from the Woman's College, on Tuesday mornings throughout the winter session at the college. The insane department of Pennsylvania Hospital stands among the first of institutions of its kind. Its two large buildings are situated in about forty acres of ground in the western part of the city, and are under the care of Dr. Kirkbride and his able assistants.

The medical schools of Philadelphia at present are that of the University of Pennsylvania, Jefferson College, and the Woman's Medical College of Pennsylvania. The schools devoted to special departments of medicine are the Philadelphia School of Anatomy, the Pennsylvania School of Anatomy, the Philadelphia College of Pharmacy, the Pennsylvania College of Dental Surgery, the Philadelphia Dental College and School of Oral Surgery, and the Dental Department of the University of Pennsylvania. At the Nurse's Home, or, as it is technically styled, The Philadelphia Lying-In Charity and Nurse Society, besides the training of nurses, two very practical courses of illustrated lectures on midwifery are given during the winter by the principal physicians, Drs. J. G. Allen and Albert H. Smith.

At the hospital connected with the Woman's Medical College there is an admirable training-school for nurses. In considering the opportunities for special instruction, it should not be forgotten that daily clinics

are held at the Will's Eye Hospital; and at the Philadelphia Orthopaedic Hospital and Infirmary for Nervous Diseases clinics are regularly held by the attending physicians and surgeons.

THE UNIVERSITY OF PENNSYLVANIA.

The University of Pennsylvania occupies over twenty acres of elevated ground upon a commanding site in West Philadelphia, one half of this ground being devoted to the medical department; it has situated upon it the Hall of the Department, the Laboratory Building, and the University Hospital. The architecture is modern and harmonious in design, and appropriate and attractive in appearance. The following is the *personnel* of the faculty as at present constituted:—

Charles J. Stillé, LL. D., Provost of the University and *ex officio* President of the Faculty; Henry H. Smith, M. D., Emeritus Professor of Surgery; Joseph Leidy, M. D., LL. D., Professor of Anatomy; Richard A. F. Penrose, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children; Alfred Stillé, M. D., LL. D., Professor of Theory and Practice of Medicine, and of Clinical Medicine; D. Hayes Agnew, M. D., LL. D., John Rhea Barton Professor of Surgery and of Clinical Surgery; William Pepper, M. D., Professor of Clinical Medicine; William Goodell, M. D., Professor of Clinical Gynecology; James Tyson, M. D., Professor of General Pathology and Morbid Anatomy; Horatio C. Wood, M. D., Professor of Materia Medica, Pharmacy, and General Therapeutics; Theodore G. Wormley, M. D., LL. D., Professor of Chemistry; John Ashhurst, Jr., M. D., Professor of Clinical Surgery; Harrison Allen, M. D., Professor of Physiology. Professor James Tyson, M. D., is the Secretary of the Faculty.

The curriculum of the graded course is arranged as follows:—

First year. Anatomy, Histology, Materia Medica and Pharmacy, General Chemistry, Physiology, General Pathology, General Clinics—Medical and Surgical. Final examinations at the end of the course: General Chemistry, Materia Medica, and Pharmacy.

Second year. Anatomy, Topographical Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, General Clinics—Medical and Surgical. Final examinations at the end of the course: Anatomy, Medical Chemistry, and Physiology.

Third year. General Pathology and Morbid Anatomy, Topographical Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, Operative Surgery, Minor Surgery and Bandaging, Diseases of Women and Children.

Opportunities for practical work in the physiological laboratory will be afforded to those who desire them. A separate fee is charged.

Gynecology, Bedside Instruction in Practical Medicine (including Physical Diagnosis), Bedside Instruction in Practical Surgery, Practical Ophthalmology, Practical Otology, Practical Dermatology, Practical Electro-Therapeutics, General Clinics—Medical and Surgical. Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children).

Final examinations for degree at the end of the course: General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children.

No beneficiary students are received at the University of Pennsylvania, nor is the secretary at liberty to receive students at reduced rates, except in the case of the six successful applicants for the scholarships created by the board of trustees. These are open to competitive examination by applicants, provided, (1) that they are able to furnish satisfactory evidence that they are without the means to defray the expenses of a medical education; (2) to write a brief autobiography, not exceeding a page of foolscap, which will serve as a test of their qualifications in orthography and grammar; and (3) to pass an examination in a Latin prose translation (first three books of *Cæsar*), and an examination

in elementary physics. This examination is held annually in September.

The faculty express great satisfaction with the results of the lengthening of the term and grading the course; it is claimed that the students are better taught, they seem of a higher order of intelligence, and finally that the classes are increasing rather than diminishing in members. The faculty have also established a post-graduate course, which embraces Practical Physiology, taught by Dr. Edward T. Reichert; Medical Chemistry, by Professor Wormley; Pathology, by Dr. H. F. Formad; Clinical Medicine, by Professor Pepper and Dr. Edward T. Bruen; Clinical Medicine, by Professor Tyson; Clinical Surgery, by Professor Ashhurst; Clinical Surgery of Children, by Professor Ashhurst and Dr. H. R. Wharton; Operative Surgery and Bandaging, by Dr. C. T. Hunter; Practical Obstetrics, by Dr. Elliot Richardson; Clinical Gynecology, by Dr. B. F. Baer; Diseases of the Nervous System, including Electro-Therapeutics, by Dr. Charles K. Mills; Diseases of Children, by Dr. John M. Keating; Diseases of Children (Children's Hospital), by Dr. Louis Starr; Ophthalmology, by Dr. S. D. Risley; Dermatology, by Dr. A. Van Harlingen; Otology, by Dr. W. M. L. Ziegler; Laryngoscopy, by Dr. Carl Seiler; and Venereal Diseases, by Dr. J. William White. A fee ranging from fifteen to twenty-five dollars is charged for instruction in each of these special departments. The Laboratory Building is a spacious building of four floors, the first being devoted to operative dentistry; the second and third are fitted up as chemical laboratories; while the fourth contains apartments for physiological, histological, and pathological investigation. There is also a pharmaceutical laboratory, and one of experimental therapeutics, supplied with the usual instruments for recording pathological conditions and the effects of medicines upon the system. The attendance of the students upon the laboratory courses is compulsory. Before commencing dissecting the student is obliged to attend the osteo-syndesmological laboratory, in order to make himself familiar with the bony skeleton before operating upon the cadaver.

At the last session the total number of matriculants was three hundred and forty-seven, and ninety-one were graduated last spring. So far this fall the number in attendance is greater than at a corresponding period last year. The following are the requirements for graduation:—

(1.) For admission to the session of 1880-1881, the candidate will be required to pass the preliminary examination. Students may report to the secretary for examination at any time after the second Monday in September.

(2.) Students who have attended one course in a regular¹ medical school will be admitted as students of the second course in the University of Pennsylvania, after having satisfactorily passed an examination in general chemistry and materia medica and pharmacy. Students who have attended two courses in a regular medical school shall be admitted as students of the third course in this institution, after having satisfactorily passed an examination in general and medical chemistry, materia medica and pharmacy, anatomy, and physiology.²

Graduates of other regular medical schools in good standing will be admitted as students of the third course without an examination.

Graduates of colleges of pharmacy and dental colleges in good standing are admitted to the second course without an examination.

(3.) The candidate for the degree of doctor of medicine must have attained the age of twenty-one years, and be of good moral

¹ Homœopathic and eclectic schools are not recognized as being in this category.

² These examinations for admission to advanced standing in the next year will be held on Thursday, September 23, 1880, at 12 m.

character. He must have applied himself to the study of medicine for three years, and have attended at least his last course of instruction in this school; have prepared a satisfactory thesis,¹ and have passed the required examinations.

(4.) When a candidate applies to the secretary of the faculty for examination, he must give satisfactory evidence that the above rules have been complied with.

(5.) Candidates who have not been successful upon a first examination will be permitted to have a second before the June commencement.

(6.) The candidate shall pay the graduation fee on the presentation of his thesis, or before receiving notice of having successfully passed his final examination. Upon receiving such notice, he will enter his name on the register for the purpose of being reported to the board of trustees.

(7.) Candidates who have passed their examination, and in other respects complied with the regulations, are reported by the secretary of the faculty to the provost of the university, who communicates such report to the board of trustees, in order that, if approved of by them, their mandamus may be issued for conferring the degree.

(8.) The commencement for conferring the degree of doctor of medicine is held on the 15th day of March, unless that day should fall on a Saturday or Sunday, when it is held on the preceding Friday.

(9.) The degree will not be conferred upon a candidate who absents himself from the public commencement, except by special permission of the medical faculty.

In regard to the arrangement of sessions, the announcement is as follows:—

The winter session, upon which alone attendance is obligatory, begins on Monday, the 4th day of October, and ends on the last week-day of February ensuing.

The preliminary session begins on the second Monday in September (13th), and ends on the Saturday preceding the day of opening of the winter session.

The spring session begins on the first Monday in April, and ends about the middle of June.

The entire college expenses for the three years' course is \$435, including matriculation and graduating fees.

JEFFERSON MEDICAL COLLEGE.

The buildings of Jefferson College are situated in the central part of the city (near Tenth and Walnut Streets), and consist of a medical hall, a new laboratory building, and a new hospital.

The medical hall contains two large lecture rooms, each capable of seating over six hundred students; they are spacious, well lighted and ventilated. A valuable anatomical, surgical, and pathological museum, rooms for practical pharmacy and experimental therapeutics, as well as the private rooms for offices for the faculty, are also included in this building. The laboratory building is immediately adjoining the medical hall, and communicates directly with it. The first floor is devoted to chemical and philosophical apparatus, the second to laboratory teaching of chemistry, and the third to demonstrations of experimental physiology and microscopy. It also contains a large room for operative and minor surgery. The different departments are all efficiently equipped for scientific work.

The new hospital of the Jefferson Medical College is situated immediately west of the college, fronting on Sansom Street, and is bounded on three sides by streets, and by a wide private passage-way on the fourth side. It is one hundred and seven feet square, five stories in height, and is designed for the easy ac-

commodation of one hundred and twenty-five patients. In connection with the hospital is the out-door or dispensary department, which furnishes much valuable material for clinical instruction.

The faculty of the college comprises the following professors: Joseph Pancoast, M. D., general, descriptive, and surgical anatomy (*emeritus*); Samuel D. Gross, M. D., LL. D., D. C. L. Oxon., LL. D. Cantab., institutes and practice of surgery; Eilerslie Wallace, M. D., obstetrics and diseases of women and children; J. M. Da Costa, M. D., practice of medicine; William H. Pancoast, M. D., general, descriptive, and surgical anatomy; Robert E. Rogers, M. D., medical chemistry and toxicology; Roberts Bartholow, M. D., materia medica and general therapeutics; Henry C. Chapman, M. D., institutes of medicine and medical jurisprudence. Professor Wallace is the dean of the faculty. Prof. William Thompson, M. D., is the ophthalmic surgeon of the hospital; William S. Forbes, M. D., is demonstrator of anatomy; J. Ewing Mearns, M. D., demonstrator of surgery; J. Gibbons Hunt, M. D., demonstrator of histology; G. Mason Ward, M. D., demonstrator of chemistry; Morris Longstreth, M. D., demonstrator of pathological anatomy, and curator of the hospital museum; and A. P. Brubaker, M. D., has been appointed demonstrator of physiology, and curator of the anatomical museum.

The requirements for graduation are as follows:—

I. The candidate for the degree of M. D. must be of good moral character, and at least twenty-one years of age. He must have attended at least two full winter sessions of lectures, one of which, the last, shall have been in this college, and must exhibit his tickets, or other adequate evidence of attendance, to the dean of the faculty.

He must have studied medicine for not less than three years, and have attended at least one course of practical anatomy and of clinical instruction. He must present to the dean of the faculty a thesis of his own composition, correctly written, and in his own handwriting, on some medical subject, and exhibit to the faculty, at his examination, satisfactory evidence of his professional attainments.

II. Students who have attended one complete course in a respectable medical school, where attendance on two complete courses is necessary to a degree, and where the same branches are taught as in this, are permitted to become candidates by an attendance here on one full course, the rules of graduation being in other respects observed. They are also exempted from the payment of fees upon attending a second term.

Students of dental colleges, where a five months' winter session is held, and where full courses are given on anatomy, materia medica, physiology, and chemistry, may become candidates after attendance on two courses at such colleges, and one full course at the Jefferson Medical College, with two courses on surgery, practice of medicine, and obstetrics.

Students of colleges of pharmacy, where full courses are given on materia medica and chemistry, may become candidates after attendance on two courses at such colleges, and one full course at the Jefferson Medical College, with two courses on anatomy, surgery, practice of medicine, physiology, and obstetrics.

III. Students who have attended two full courses on anatomy, chemistry, materia medica, or institutes may be examined on any of these branches, at the end of their second course. They are thus enabled to devote their last (third) course to the didactic lectures on the remaining branches, and to clinical study. The faculty record with satisfaction the large and increasing number of students who now avail themselves of these examinations, and who attend three courses of lectures before presenting themselves as candidates for graduation. The attendance upon the summer course of lectures has also greatly increased in numbers, and the faculty earnestly recommend all who have it in their power to use these improved facilities for a complete medical education.

No *honorary* degrees in medicine are granted.

IV. The degree will not be conferred upon any candidate who absents himself from the public commencement without the special permission of the faculty.

Fee to each professor, twenty dollars, in all, one hundred and forty dollars. Matriculation fee five dollars, to be paid once only. Graduation fee thirty dollars. Students who have paid for two full courses are entitled thereafter to attend free of all charge.

V. Students who have attended two full courses of lectures in other accredited medical colleges are entitled to the tickets of a full course in the Jefferson Medical College for seventy dollars. Graduates of three years' standing of other accredited medical colleges are required to pay the matriculation fee only;

¹ The thesis must be in the candidate's own handwriting, and should be written on thesis paper, the alternate pages being left blank. It is recommended that the candidate prepare his essay before the commencement of the last course of lectures. It should also be bound. A thesis may be published by the candidate if he desires it, the permission of the professor by whom he was examined thereon having been first obtained; but no alteration shall be made in such thesis without the consent of the said professor.

to graduates of less than three years' standing the fee for a general ticket is fifty dollars. To graduates of accredited dental colleges and colleges of pharmacy the fee for a general ticket is one hundred dollars.

A preliminary course of lectures is given in September, the regular term commencing annually with the first week in October, and continuing until the close of February following. There are several courses of special instruction which should be mentioned. The demonstrator of anatomy and the demonstrator of surgery each give two illustrated lectures a week in the evening during the winter, spring, and fall sessions. The large anatomical rooms are open daily from eight A. M. to ten P. M.; a full supply of material is furnished at the rate of one dollar per part.

The working laboratory for practical chemistry, under the supervision of the professor of chemistry, aided by the demonstrator of chemistry, is open twice a week during the winter and spring courses. The student is here taught to manipulate for himself in the preparation of gases, acids, salts, etc., and to test and trace reactions, to perform qualitative and quantitative analysis, to examine normal and abnormal products, and to become familiar with those instruments, such as the microscope, the galvanic battery, etc., which are useful in the hands of the medical practitioner. In connection with this the demonstrator, Dr. G. M. Ward, holds weekly examinations upon the didactic lectures by the professor of chemistry. The fee for the courses is five dollars, and for the use of apparatus and chemicals one dollar and a half. The laboratory which pertains to the chair of physiology is under the immediate charge of a demonstrator, who conducts vivisections and assists advanced students in original investigation. The microscopic laboratory is amply provided with microscopes and other appliances for thorough practical instruction, and is under the charge of Professor J. Gibbons Hunt, demonstrator of histology.

Lectures upon pathological anatomy are given by Dr. Morris Longstreth, pathologist to the hospital, who also gives instruction in the post-mortem room of Pennsylvania Hospital, opportunities being given for the students to be present at the autopsies.

Professor Bartholow has instituted this year an original plan in connection with his lectures for teaching therapeutics and materia medica. He has appointed an instructor in pharmacy (Dr. J. Mason McCollin), one in materia medica (Dr. N. K. Minich), and one in therapeutics (Dr. Frank Woodbury) to conduct a series of demonstrations and examinations during the winter upon these branches, for which they are abundantly supplied with material and the proper apparatus of precision. Experimental therapeutics will also be carried on by advanced students interested in original studies of the action of drugs upon the lower animals. For these several departments no fee is charged beyond a small one for material furnished. This promises to be quite popular among the students.

The clinics at the new hospital and at the Pennsylvania Hospital are in the neighborhood.

At the close of the winter session a spring session is held, beginning on the fourth Monday in March and lasting to the middle of June, embracing the following subjects:—

Clinical Surgery and Medicine, by the hospital staff; Clinical Lectures at the Pennsylvania Hospital, Professor Bartholow; Physiology and Comparative Anatomy, Professor H. C. Chapman; Electro-Therapeutics, — — —; Diseases of the Urino-

Genital Organs, Dr. S. W. Gross; Operative Surgery, Dr. J. H. Brinton; Ophthalmic Surgery, Professor William Thomson; Venereal and Cutaneous Diseases, — — —; Laryngoscopy and Diseases of the Throat, Dr. J. Solis Cohen; Anatomy, Dr. William S. Forbes; Physical Diagnosis, Dr. J. Gibbons Hunt; Microscopy, Dr. J. C. Wilson; Pathological Anatomy, with demonstrations, Dr. Morris Longstreth; Diseases of Children, Dr. W. B. Atkinson; Toxicology, Dr. H. Leffmann; Urinary Pathology, Dr. Jos. S. Neff.

Attendance upon the summer course is allowed as office instruction, but does not count as a "session" of lectures.

There is no additional charge for the spring course of lectures to matriculates of the college, except a registration fee of five dollars. Non-matriculates pay the registration fee, and also \$35, which latter sum is, however, credited on the amount of fees paid for the ensuing winter course. And, while attendance on the fall or spring courses is not obligatory for graduation, the faculty earnestly recommend the student to avail himself of the advantages which are to be derived from these especial instructions.

The fees for the Jefferson College are matriculation five dollars, professors' tickets (\$20 each) \$140 (for the term \$280, no charge after the second term), graduation \$30. Total, \$315.

THE WOMEN'S MEDICAL COLLEGE.

This institution was chartered in 1850, since which time annual sessions have been held, and nearly three hundred ladies have been graduated in medicine. The college, situated in the northern part of the city, has a modern, commodious building, containing two large lecture rooms (seating three hundred each), and also large laboratories for chemical and pharmaceutical classes, dissecting, and for the museum. The sessions open in October and close at the end of February. A spring course is also held, which is free.

Early in the career of this college its authorities inaugurated the graded system of teaching, and established a chair of dental physiology and pathology, and a department of practical pharmacy; thus furnishing facilities for work in the pharmaceutical and chemical laboratories, which are kept open both during the winter and spring sessions. Lectures on histology and pathology are given weekly through the entire winter, with training in the use of the microscope. Among the features peculiar to the college may be specified the course in the pharmaceutical laboratory. Without additional fees regular weekly examinations are held through both winter and spring sessions. The college has an excellent though small library.

The Women's Hospital, in immediate proximity to the college, is a large, well-appointed building, admirably adapted for its purpose.

The faculty of the Women's Medical College, with the auxiliary instructors, is as follows:—

Mary J. Scarlett-Dixon, M. D., Professor of Anatomy; Rachel L. Bodley, M. D., Professor of Chemistry and Toxicology; Benjamin B. Wilson, M. D., Professor of Surgery; Clara Marshall, M. D., Professor of Materia Medica and Therapeutics; Frances E. White, M. D., Professor of Physiology and Hygiene; Anna E. Broomall, M. D., Professor of Obstetrics and Gynecology; James B. Walker, M. D., Professor of Practice of Medicine; Alice Bennett, M. D., Demonstrator of Anatomy, etc.; J. Gibbons Hunt, M. D., Professor of Microscopy and Histology; C. Newlin Peirce, D. D. S., Professor of Dental Physiology and Pathology; W. W. Keen, M. D., Lecturer on Clinical Anatomy; Jos. B. Remington, Ph. G., Lecturer on Pharmacy; Edward T. Bruen, M. D., Lecturer on Pathology; Anna McAllister, M. D., Instructor in Obstetrics; Mary E. Allen, M. D., Demonstrator of Chemistry; Amy S. Barton,

M. D., Instructor in Practice of Medicine; Emilie B. Dubois, M. D., Instructor in Materia Medica; Herrmann Haupt, Jr., M. D., Instructor in Physiology. Professor Rachel L. Bodley is Dean of the Faculty.

The whole cost of two or more courses of lectures and fee for graduation is \$265. Attendance upon two courses of lectures is required, the last to be at this college, and the candidate must have been engaged in the study of medicine for at least three years.

The advantages of Philadelphia as a medical centre need not be enlarged upon. The cleanliness and healthfulness of the city, the abundant supply of good water and good food at moderate prices, its convenience of location, and many attractions to the visitor can here only be mentioned. It can also be said with truth that its moral atmosphere (by no means an unimportant consideration "to parents and guardians") is rather better than some other large cities. As concerns its special inducements to medical students, which continue to attract them from all parts of the continent, we have very imperfectly indicated some of the more prominent of them. If the tree may be judged by its fruit, the profession can have no reason to complain of Philadelphia or her ancient halls of learning in regard to the quality of the instruction imparted by her distinguished teachers.

JOHNS HOPKINS UNIVERSITY.

COURSE ANTECEDENT TO THE STUDY OF MEDICINE.

THE Johns Hopkins University provides a special collegiate course for those who intend afterwards to study medicine. This course extends throughout three years, and, as a mental discipline, is equivalent to the other courses leading to the A. B. degree, which is therefore conferred on matriculated students who complete it. The main object held in view is to utilize for intending medical students the opportunities for practical study in physics, chemistry, and biology, found in an endowed institution with well-equipped laboratories, and so often wanting in medical schools; it is also considered an object to lessen the work to be subsequently crowded into the period of study at a medical school by giving the student a good knowledge of the sciences which lie at the basis of the medical art before he commences professional study. Physics, chemistry, and biology are therefore the main subjects included in the course; some knowledge of French and German is also demanded; and there are, in addition, several subjects (inserted with a view to giving some breadth of culture) between which an option is allowed. These are Latin, Greek, mathematics, English literature, history, logic, and psychology. Each student must take up at least two of these optional subjects, the amount of knowledge required in each being such as would be obtained by a year's honest work.

The scientific subjects are taken up in the following order:—

I. PHYSICS.

There will be three recitations, two lectures, and one exercise in the physical laboratory, weekly, through a year, at ten A. M.

Elementary mechanics will be studied during the first portion of the year; then will follow, in the order named, the study of the physical properties of matter, theory of undulations, acoustics, heat, magnetism, electricity, and light.

The lectures have as their aim the elucidation, by means of

experimental demonstrations, of the subjects pursued by the class.

A morning of each week will be assigned for the work in the laboratory. This work will be selected with two principal ends in view: first, to give the student a clearer insight into the subjects studied, serving as a test of progress both to teacher and learner; and, second, to enable him to acquire a familiarity with the use of apparatus. The manner of conducting the exercise will be as follows: With the enunciation of a problem, each student will receive the apparatus necessary for its solution, and will be required to make the series of observations which, with their discussion and reduction, he is to submit to his instructor. These results will then be criticised and returned. Those who are aiming at the profession of medicine will thus grow familiar with physical instruments and methods which are of prime importance in physiological researches, for example, thermometry, the laws governing the phenomena of electricity, of light, etc. A knowledge of trigonometry is in all cases requisite before entering on this course.

II. CHEMISTRY.

The course of lectures and recitations on general chemistry is in progress through the year, at nine A. M. Students of this course are expected to attend all these exercises during the first year, and during the last half of the first year and the first half of the second year to work daily in the chemical laboratory. The instruction in the laboratory will be directed in such a way as seems best adapted to give the student a thorough knowledge of the pure science of chemistry and the methods peculiar to it. This kind of instruction is considered to be the best basis, whatever the object may be which the student has in view.

At first the student will have to make himself acquainted with the action of the various classes of substances upon each other by actual observation at the laboratory desk; and his knowledge will be constantly tested by means of appropriate problems given him for solution. After completing this course, he will be enabled further to test his acquirements by taking up a course of qualitative and quantitative analysis. At intervals during the time he is engaged in this work, he will be required to prepare some chemical compounds in a pure state, so that his ideas concerning chemical action may become enlarged, and his knowledge of the special properties of the different classes of compounds more definite and detailed.

Opportunity is given in the laboratory for the prosecution of the study of chemistry to any extent, but generally the course thus briefly sketched will suffice for one who looks toward a course in medicine.

III. BIOLOGY.

The study of biology will begin in the second year, that is to say, after the student has made considerable progress in the study of physics and chemistry, and will continue through the third year. Those who have acquired elsewhere sufficient knowledge of the above subjects to satisfy the examiners may be at once admitted to work in the biological laboratory.

The course is designed to give the student, in the first place, a knowledge of the laws of life in general, whether exhibited in animals or plants; and, secondly, a knowledge of human anatomy and physiology. Human physiology is taught as a part of general physiological science, the student being left to acquire afterwards its clinical and hygienic applications as part of his medical studies proper; and similarly surgical and regional anatomy are left for the medical school proper; the student in this course studies the human body as the final one in a series of animal types.

It is believed that by approaching these sciences from a general scientific stand-point the student is best prepared for the study of pathological structure and function; and that a great advantage will result from his being able to concentrate his attention on the professional applications of these sciences when he enters a medical school.

The order of study is as follows:—

A.

(1.) *General Biology.*—Lectures, recitations, or examinations four times weekly throughout one year, with daily laboratory instruction. This course is intended to bring prominently before the student the fundamental facts of biology as gathered from a detailed study of a number of typical plants and an animal from each class of the animal kingdom. The embryology of the chick is also studied in detail.

In this course beginners are taught how to use the microscope and to dissect.

(2.) *Human and Comparative Osteology.*—About sixty lectures or recitations.

These biological courses, with the corresponding laboratory study, give the student from three to four hours' work daily throughout the year.

B.

The closing year of the preliminary medical course includes :
(3.) *Human Anatomy*. — This course extends from the commencement of the academic year to the end of March, and consists chiefly of demonstrations and practical study in the dissecting-room.

(4.) *Animal Physiology and Histology*. — Mainly with reference to the human body. Three lectures or examinations weekly throughout the academic year. The microscopic structure of the tissues and organs is studied in this course, except so much as may have already been gone through in the general biology course. Students are required to perform for themselves the simpler physiological experiments, while other more difficult but important facts are demonstrated to them.

The physiological apparatus belonging to the university is unusually good and complete, and students who follow this course will acquire a knowledge of the method of using all the chief instruments employed in physiological research; and, so it is hoped, will be able afterwards to carry out scientific investigations on the physiological action of drugs, in experimental pathology, etc.

(5.) From time to time short advanced courses of lectures on special physiological topics are delivered.

IV. SUMMARY OF THE COURSE.

Requisite for Matriculation: A good English education; Latin; Greek, or French and German; mathematics; physical geography.¹

First Year. — Physics (daily); chemistry (daily); German; English physiography.

Second Year. — Chemistry (daily, first half year); general biology (daily); French; English drawing.

Third Year. — Physiology and anatomy (daily); logic; psychology.

At the option of the student during the three years, mathematics; ancient languages; and various courses of lectures.

V. ADDITIONAL INFORMATION.

(1.) Students not unfrequently having presented themselves for admission to the preliminary medical course without the knowledge required to pass the full matriculation examination, and yet apparently fitted to profit by the course, the university authorities receive such if they possess an elementary knowledge of Latin (sufficient, for example, to translate Cæsar and Virgil, with a knowledge of accidence), and also of arithmetic, algebra, and geometry. Such candidates must in their answers conform to the rules of English grammar, including orthography, and no candidate will be approved who fails to satisfy the examiners in this respect. The student may, however (and is always encouraged and advised to), offer himself for matriculation at any time during his course, and may, after passing his matriculation examination, present himself in the regular course for a degree.

(2.) For requirements and opportunities in the study of mathematics, ancient and modern languages, history, psychology, etc., reference may be made to announcements in the University Register and Programme. It is only necessary to mention here that in French and German students will receive such instruction as should enable them to read at sight French and German, and to render English into French and German, and to understand French and German grammar; and that courses in English philology and literature will be in progress during the year.

(3.) Instruction is provided by the university in comparative anatomy and botany, but attendance upon special courses in these subjects is not required of all who follow the preliminary medical course, as the general principles and more important facts are taught in the course of general biology.

(4.) College graduates from approved institutions, having already obtained a liberal education, are permitted to concentrate their attention on the scientific courses, and so may complete the curriculum of the above course preliminary to medical studies in less than the usual three years. On the other hand, a student may, if he wish, spend a longer time in these preparatory studies, or take up additional ones.

(5.) It may be added that the trustees and instructors of the university are especially anxious to promote post-graduate study and original research. Medical men or others properly fitted to

¹ If the candidate enter with a knowledge of French and German other studies may be substituted for them during the progress of the course.

profit by such opportunities are received for advanced study or investigation in chemistry, histology, or physiology, as well as other subjects. The equipments of the university for such purposes are unusually complete. Twenty fellowships, each bringing in five hundred dollars per annum, are annually awarded to advanced students, at least three being in chemistry and an equal number in biology.

Last year the number of students taking courses with reference to the study of medicine was twenty-four, excluding advanced workers engaged only in research in the laboratory. Of the total, twelve were graduates; six matriculated students, aiming at the A. B. degree through the above course of study; and six were under-graduates, received without passing the full matriculation examination, and not candidates for a degree.

The buildings of the Johns Hopkins Hospital are now in course of erection. When completed, a medical school will be instituted in connection with the hospital. This it is hoped to make adapted for post-graduate study, and for training in the more scientific branches of medicine, as hygiene, pathological chemistry, experimental pathology, experimental therapeutics, etc., so that the student who has already acquired a thorough practical knowledge of chemistry and physiology and normal anatomy can carry an advanced study or research in connection with disease.

As yet, however, no steps have been taken in connection with the organization of the medical school proper, and no authoritative statements can be made.

THE HARVARD MEDICAL SCHOOL.

THOSE interested in the progress of medical education in this country are already sufficiently familiar with the general features of the changes which have taken place at the Harvard Medical School within the past ten years. They are also aware that the results have in every way proven gratifying to the friends of the college, and stimulating to the medical profession in other States, and to medical schools in various sections of the country. It is well known that the effect of these changes has been to improve the quality of the students, to increase the income of the school, and to add largely to the number of instructors. These results have been mainly attained by offering such inducements as have resulted in a prolongation of the period of residence of each student at the school. In 1872 only five per cent. of the graduates had remained three years at the school, while in 1879 eighty-eight per cent. of the graduates had remained at the school during their three years of study. It must be evident to every unprejudiced observer that measures which will lead to such a prolongation of the period of study deserve every encouragement, if such measures are considered to represent additional requirements and additional opportunities. That the latter are far greater and more numerous in 1880 than in 1870 is so obvious to every person at all familiar with the history of this school during the past decade that it would seem superfluous to direct attention to the printed annual reports of the president of Harvard College.

The latest changes which have taken place at the Harvard Medical School are such as carry out the spirit of all earlier advances, and tend to make still wider the interval which may lie between this school and those which strive to compete with it in promoting the cause of medical education in this country. These

changes consist in additional requirements for admission, and an extension of the period of study.

When they first demanded an examination for admission, the faculty felt that so obsolete a custom must not be restored in such an abrupt manner as to turn away many candidates who were sure to make excellent physicians, although they might not have had the fullest opportunities of college training. The examination was, therefore, made sufficiently stringent to insure a certain liberality of education, still more a certain training which should enable the student to appreciate the opportunities of study afforded by the medical school. The study of a language other than English, and the study of physics, were thought to indicate a knowledge of many other subjects, and an examination in Latin, French, or German, and physics, was offered as a test of the sort of preliminary education the applicant had been able to obtain. The standard in Latin was purposely made high to exclude the school-boy who might have studied this language for two or more years, and yet have had but little opportunity to progress in the study of mathematics, natural science, or general literature. The effect of this admission-examination was immediate, improving the quality of the students. Before it was instituted the inefficient or incompetent students failed to advance with their class, and gradually withdrew from the school, either to give up the study of medicine altogether, or to seek for a degree elsewhere. Candidates who are unlikely to profit by the opportunities offered are now prevented from entering the school, at all events until they have fitted themselves to profit by their surroundings.

It has been thought by the faculty that this test should be made still more delicate. They have determined, therefore, to exact a knowledge of Latin, instead of accepting another language as an equivalent, to require, as heretofore, an examination in physics, to demand a special examination in English, likewise an examination in French, German, the elements of algebra or of plane geometry, or botany. This examination applies to all candidates for admission, with the exception of those holding a literary or scientific degree, and those who have already passed the more stringent examination for admission to the college, and must be passed before the students are admitted to the school.

An extension of the period of study to four years is the other step which the faculty have seen fit to establish this year. It has been apparent for some years past that the amount of instruction given in the third year was greater than could be properly assimilated. The students were not slow in learning this fact, and either failed to attend certain exercises in subjects in which there was no searching examination, or voluntarily attended the exercises of the school during a fourth year. The latter class were thus enabled to lighten the work of the third year, and at the same time to avail themselves of all the instruction given. To persuade more students to remain four years is the present effort of the faculty.

As the three years' course is to be as full and complete as heretofore, and students are permitted to graduate at the close of this three years' course, it was necessary to make the additional year of study voluntary. It has therefore been the design of the faculty to make the fourth year so attractive that students would feel a keen sense of the advantages to be gained

by adding to their period of study. Every effort has been made to give special clinical opportunities to students of the fourth year in all the specialties, as well as in medicine and surgery; to furnish practical instruction in such subjects as mental disease, forensic medicine, and hygiene; to add to the efficiency and thoroughness of operative courses in surgery, obstetrics, and gynecology; and to open the laboratories of physiology, chemistry, and pathological anatomy in the fullest and freest manner, for such advanced students to investigate those subjects which may be of special interest to them. The essential features of this fourth year are the opportunities of instruction offered to the individual. He becomes one of a class of three or four, instead of one in a class of fifty or a hundred.

As attendance upon this fourth year is voluntary, so an examination in its work is not insisted upon. The attempt is made, however, to encourage the students to be examined by offering a special degree, which shall indicate not only that they have studied four years, but that they have attained an average of seventy-five per cent. in all the examinations of these years. For those who may desire the opportunities offered, yet either fail to reach the standard or be unwilling to try for it, a certificate of attendance in the studies of the fourth year, in addition to the ordinary degree of doctor of medicine, will be given.

Such are the latest efforts made by this school to educate better physicians for the country at large, and to bring medical education in the United States more nearly to the level maintained by the great schools of Europe. May the time soon come when the voluntary fourth year shall be made compulsory, and all our medical schools be enabled to offer the best opportunities at the least cost.

THE MEDICAL SCHOOL OF MAINE.

THIS venerable institution, the medical department of Bowdoin College, enters upon its sixty-first annual course of instruction in the second week of February next. It was established in 1820, at a time when the vast majority of the medical practitioners of the State of Maine had received no systematic education, but had picked up their knowledge of physic under the supervision of their private preceptors, — a method not entirely devoid of advantages which are not presented by our modern system, but not well calculated to develop the intellectual capacities, or to impart a broad and deep knowledge of the science and art of medicine. The new school, being well officered and receiving the countenance and financial aid of the legislature, was not slow in making its influence felt; and before many years had passed it was quite as generally the rule, as it had formerly been the exception, for practitioners to have diplomas which certified their graduation from a respectable institution.

This school, while not attempting to compete with metropolitan institutions, has always done and is still doing a most important service to the profession and the community. It affords, at a moderate price, an excellent medical education to a considerable number of young men, who are determined to practice medicine, but are unable to attend the more extended and expensive courses of instruction in the large cities. They supply places which, without them, would have to depend for medical advice upon ignorant and unprincipled charlatans. The standard of the school is being ele-

vated as rapidly as the integrity of the institution will warrant, and is already creditably high, as will be seen by the following statement of requirements and advantages.

Before a student can become a member of the class, he must give satisfactory evidence of possessing a fair English education. All who cannot show diplomas from recognized academies and high schools must pass a written examination in the ordinary branches. Being admitted, the student finds that, while the plan of lectures which is usual in colleges obtains here, the course is practically graded for those who prefer this better method. The faculty advises him to devote his time in the first year to the elementary branches, in the second to those which naturally follow, and in the third to the most difficult topics, the study of which necessitates a knowledge of the previous departments. At the end of the first year the final examinations in anatomy, physiology, and chemistry are held; at the end of the second those in materia medica and obstetrics; and at the close of the third those in practice, surgery, and gynecology. The pursuit of this method is optional, but a large number adopt it, and it is growing in favor. If a student chooses, he may take all his examinations at the end of his third year of study.

The members of the faculty hold frequent quizzes without extra compensation, a service which is greatly appreciated by the students, who value these exercises as highly as the lectures.

The examinations are both written and oral, and are of a searching character. Applicants must have dissected three parts of the body, have written a thesis, and have studied medicine three years.

Though situated in a country town, the school affords good opportunities for witnessing surgical and medical cases. The clinics are very large, the patients coming from all, even distant, parts of the State to receive free treatment. The means for studying practical chemistry and anatomy are superior. The faculty is composed of men who have had long experience in teaching, and who, appreciating the responsibility of their positions, are anxious to do all in their power to advance the interests of the medical profession.

PORTLAND SCHOOL FOR MEDICAL INSTRUCTION.

This is not a diploma-conferring institution, but simply, as its name implies, a school in which medicine is taught. It takes the place of private preceptorship, the difference being that, while with a preceptor a student is generally left to follow such plan of reading or idleness as his discretion or folly may dictate, and gets no help from his nominal teacher from beginning to end of the year, in this school he has systematic daily instruction in all the fundamental branches and a number of the specialties, and is held to a strict accountability in the performance of his duties by a corps of eleven competent physicians, each of whom devotes especial attention to the work of his own department. Recitations, lectures, clinics, demonstrations, dissections, all receive their share of attention. The school is admirably equipped with apparatus and material of various kinds. The Maine General Hospital, the Greeley Hospital, and the Portland Dispensary afford ample clinical advantages.

The educational standing of the school is higher than that of most medical colleges, applicants being required to pass a written examination in English, and in elementary Latin and physics.

This school fully supplements the work of the Medical School of Maine, its sessions occupying eight months of the year, and those of the latter institution the remaining four. The entire year is thus consumed. The success which those who have taken their medical education in these schools attain in the practice of their profession is the best evidence of the quality of the instruction given.

THE CHICAGO MEDICAL SCHOOLS.

THE regular medical schools of Chicago are the Rush, Chicago, and Women's Hospital Medical colleges.

The Rush was organized nearly forty years ago, and was the only medical institution here for many years. Twenty-two years ago the

CHICAGO MEDICAL COLLEGE

was organized, mostly by gentlemen who resigned from positions in Rush College to enter its faculty. The Chicago College was founded for the purpose of inaugurating and carrying out a change in the method of teaching which was thought to be an improvement on the practice then in vogue in this country. That practice was for students to attend two courses of lectures, of about four months each, before graduating, the lectures of the successive courses being practically identical. The plan of the Chicago was to divide the studies into the elementary or junior branches and the practical or senior branches, and recommend that students attend these courses respectively during successive terms. At the end of the junior course a student was allowed to pass his final examination on the branches of the course, and have thereafter nothing but the senior branches to attend to.

History will accord this school the credit of having first adopted the "graded system" in these years in this country.

The plan is certainly philosophical, as it has proved to be in literary colleges, and much was hoped for it in the advancement of the profession. But as it exacted nothing that other colleges did not require, but only rearranged and put in different sequence what all the first-class schools were teaching, it did not constitute an elevation of the standard in the true sense. No higher grade of requirements was made, no better qualifications for a degree were enacted; the studies were only made more convenient for the student. The result was that no better doctors were turned out; the fountain was not made higher; at the same time a student found it easier to pass his examination by this plan than under the old system.

It was not till a very few years ago that the standard was really raised by this excellent school, when it required an entrance examination in English, and lengthened its course. Its course is now six months long, and the studies are divided into three groups, junior, middle, and senior, and students are advised to take these respectively in successive years, and to pass final examinations in the studies taken at the end of the respective years. Two courses of lectures, however, are all that is exacted; and such as do not attend more divide the "middle" branches between the junior and senior courses.

The entrance examination for applicants not presenting diplomas of academic institutions has doubtless done good in improving the character of the classes,

but the examination is unfortunate in being wholly arbitrary and subject to the personal notion of the examiner. It may be severe or utterly useless, according to the individual bias. "Applicants must possess at least a good English education," and failing to present documentary proof they "must sustain a satisfactory examination before a committee of the faculty." When a rule of this sort is so wanting in specific definition of its meaning, great confidence in its uniform and beneficial working should not be expected. The term "satisfactory" is too flexible when applied to such an examination. For a strictly medical examination usage has defined the word well enough. This school has a good chemical laboratory, where students who desire may pursue practical chemistry. Quite a proportion of the classes do so.

The clinical facilities that are used are the Mercy Hospital in an adjoining building, and the dispensary in the college building. The hospital usually has about fifty patients, and the clinical advantages both there and at the dispensary are worked up to an admirable degree of perfection. The hospital medical staff are all members of the college faculty. The dispensary is largely attended, several thousand patients visiting it annually, and students regularly rotate in their attendance upon the several departments, so there is no crowding, and the best use is made of the material.

The lying-in department of the hospital is sufficiently extensive generally to enable each member of the graduating class to witness one case of obstetrics at least. Students are allowed to attend the County Hospital, but this is so far off (five and three quarters miles) that they do not visit it.

One course of dissections is made obligatory. Students must pursue the clinics of Mercy Hospital at least one term. A thesis is required. Students who desire may have instruction in practical physiology.

A practitioners' course of four weeks was inaugurated last spring immediately after the commencement, and was very successful, thirty-nine gentlemen being in attendance. The fee for this course is \$30. This school united with Rush two years ago in raising the fees from about \$50 to \$75. The graduation, or final examination, fee is \$30. The number of students attending the last session was 148, and the number of graduates 36.

RUSH COLLEGE,

as already stated, is nearly forty years old. Twenty years ago the regular course of lectures had a duration of sixteen weeks. Within a few years it has been lengthened several times, so that it now continues twenty-one weeks. In addition there is a spring term of sixteen weeks that is a complete course of lectures in itself; this is practically free to the regular students of the institution, but does not count as a "course of lectures" in the conditions of graduation.

The two regular courses of lectures required for the degree are practically identical; there is no grading of the course, but students are advised to devote themselves mainly to the elementary studies during the first year, and this advice is emphasized to such as take three or more courses of lectures.

The rule of one and only one final examination has never been modified till a year ago, when it was decreed that students who will attend at least three winter-courses may pass their final examination in anat-

omy, physiology, materia medica, and chemistry at the end of the second winter course.

The clinical facilities are the college clinics, seven each week, the Central Free Dispensary (in the same building), at which a hundred or more patients attend each day, and the Cook County Hospital.

The college clinics, occurring each week, that are public to all the class are one each on surgery, orthopaedic surgery, gynaecology, dermatology, and venereal diseases, nervous diseases, diseases of the chest, and general medicine. In addition there is a daily clinic in gynaecology, attended by an average of eight patients each, to which small sections of the graduating class only are admitted.

There are several public clinics in the Central Dispensary each week, and in the prescribing rooms small sections of the graduating class are received in rotation by a system of cards of admission.

The County Hospital is under control of the county commissioners. Of its medical staff three members belong to the faculty of the Chicago College, three are from Rush College, and seven belong to no college.

The hospital stands opposite the college, is the public (charity) hospital, and the largest in the city, having three hundred beds. Students are required before graduation to have attended at least one year the clinics and post-mortem examinations at the hospital. There is a spacious amphitheatre for clinics and another for post-mortem exhibitions, with all the modern appliances. There are six public clinics in the hospital each week.

The college has a students' chemical laboratory, capable of accommodating about thirty at work at one time. A course in practical chemistry is obligatory, and the briefest course allowed is one consisting of thorough urinalysis, a short course in general toxicology, and a similar one in general qualitative analysis. There is a course on practical physiology, but it is optional. Practical anatomy is required, "and to the extent of having dissected each region of the body."

The fees are seventy-five dollars, exclusive of matriculation (five dollars), laboratory and dissecting tickets, (each five dollars), and the examination fee is thirty dollars, but the fee is not returnable in case the candidate fails. No thesis is required, but most of the examinations are in writing.

The announcement has just been made by this school that after March 1, 1883, all new applicants will be required to submit to an examination, unless they have passed an entrance examination in some respectable literary college or are graduates of a high school. The examination is to include only the elements of physical sciences as taught in common school text-books and arithmetic to cube root, but the examinations are to be in writing, and the papers are to be judged critically as to "spelling, knowledge of grammar, and composition exhibited."

The spring course is conducted mainly by a faculty of lecturers, who do not teach regularly in the winter course. To encourage a higher grade of attainments a special certificate of honor is awarded to students who attend three winter and at least one spring term. A post-graduate course was established last year, but as it occurred during the latter part of the regular winter session, when the college was full of students, it was found to be inconvenient. Hereafter it is to follow the regular course, and continue four weeks. The fee for this course is thirty dollars.

The number attending the practitioners' course last winter was forty, the whole number of students attending the last winter course was four hundred and eighty-one, and the number of matriculates at the last spring session was two hundred and twenty-seven. The graduates of 1880 were one hundred and forty-eight.

THE WOMEN'S COLLEGE

is ten years' old, and is in every way a first-class school. It receives women only; divides the curriculum into junior and senior studies, and advises that they be taken in successive years; has an entrance examination for those not bringing "certificates of graduation from a high school or like institution, or a teacher's certificate from a county superintendent of schools," but the line up to which students must come in such examination is not stated.

The requirements for graduation are rigid. In addition to the three years' study and two lecture terms the student must have "dissected each of the usual divisions of the body at least once," and have attended one course of clinical instruction; she must also take a course in practical chemistry in the laboratory; she must write a thesis. While the studies are divided into junior and senior branches, the student is not allowed an examination at the end of the first course. The final examination covers all branches taught.

The clinical advantages are several college clinics, the Cook County Hospital, which is directly opposite, the Hospital for Women and Children, four blocks away, and Central Free Dispensary, one and one half blocks away.

The Hospital for Women and Children is wholly under the professional care of female physicians; it has about thirty beds, and is always full.

The college has a very excellent summer course of lectures, given mostly by members of the faculty.

The number of students at the last winter term was sixty-five, and the graduates were ten.

Each of the three colleges has a permanent building of its own, built after the modern notion of things, and very well adapted to its wants. Perhaps the most perfect one is that of the Women's College. The best and most spacious lecture-room is the upper amphitheatre at Rush, — which has a seating capacity of five hundred, — unless it be the clinical amphitheatre of the County Hospital, which is even larger.

THE DETROIT MEDICAL COLLEGE.

THE course of instruction at this college is introduced by a definite written examination in English composition, in arithmetic, in algebra, and in physics.

The obligatory attendance upon college drill covers three yearly terms of six months each. The college requires daily laboratory work during the first two years, and daily clinical work during the last year. It requires attendance upon from three to four lectures or recitations daily during the three terms. During the first two terms, it requires attendance upon one or two clinical lectures each day. During the last year, each student is obliged to spend from one to three hours daily in actual clinical work in hospital wards or in dispensaries. It requires that each student shall pass satisfactory examinations at the end of each term upon the studies he has actually pursued, and upon

the laboratory or clinical work he has actually performed.

The plan of study is carefully graded. All instruction is so arranged that each branch may aid in the comprehension of each other branch pursued at the same time, and that these together shall prepare the way for the most easy and perfect comprehension of those which follow. The instruction of each class is prepared for and given to it alone, and always in a room separate from the other classes. Thus the separation of the three classes is as distinct as in the best literary colleges. The freshman class must, during each week, attend four lectures or recitations on anatomy, four on physiology, three on chemistry, three upon materia medica, and one on pharmacy. It must work twelve hours weekly for four months in the chemical laboratory, and for two months in the laboratory of practical pharmacy.

The junior class must attend each week four lectures or recitations upon anatomy, four upon physiology, two upon medical chemistry, three upon therapeutics, and four upon morbid anatomy and pathology. It must work twelve hours per week in the dissecting-room for three months, and in the physiological and histological laboratory for three months. The senior class must attend four lectures a week upon general surgery, five lectures or recitations per week upon practice of medicine, two upon diseases of women, three upon obstetrics, one upon diseases of the eye and ear, one upon diseases of the larynx or genito-urinary apparatus, one upon diseases of children, one upon nervous diseases, and one upon toxicology and medical jurisprudence. It must also work in small sections (each section being in charge of a clinical teacher) from one to three hours daily in hospital wards or dispensaries. Three hospitals, with from thirty to one hundred beds each, and two large dispensaries, situated in a city of one hundred and thirty-five thousand people, afford ample clinical material. The four laboratories are large, well lighted, and fitted with all modern conveniences for the successful study of the four fundamental branches of medicine and surgery.

CHARLESTON.

IN a few days the Medical College of the State of South Carolina will open its fifty-ninth anniversary session. In sympathetic and coöperative affiliation with such institutions as are moving through the only avenue that can conduct their labors to a broader, more complete, and more productive field of usefulness, this college has seen fit to indorse and accept the three years' term of a graded course of instruction as the necessary requirement for graduation.

The difficulties inherent to an internecine war, have fortunately been surmounted, and the successes of the past few years encourage the hope that the present step, which otherwise would long since have been taken, will add to the reputation the college has always enjoyed.

Larger classes of students and greater proficiency among the graduates of late bear attestation to the continued popularity of this school, and to a more earnest aim among its attendants at the acquirement of that knowledge in search of which they are engaged. A more protracted course of studies, a higher standard of requirements, and necessarily a more complete final

examination may and doubtless will in the future drive some away, but the faculty have not allowed expediency to interfere with duty, and they feel assured that they will at least secure that better class of aspirants for medical renown who in time must reflect greater credit upon their alma mater.

The Medical College adjoins the Roper Hospital, which is a great advantage, since attendance upon the clinical lectures in the one and the didactic prelections in the other necessitates no loss of time in transit from one building to the other.

One word with regard to the present appearance of the old college. Its architectural improvements need not be referred to particularly. But we cannot forbear to chronicle a change in one respect. The campus ground, though long since inclosed by an iron railing in continuation with that which encircles the Roper Hospital, had long been an unsightly field of overgrowth and rubbish, which in the rear, seen from the street, presented the brick wall of the amphitheatre of dissection, with its unartistic sky-lights. This area, now elegantly laid out in walks and garden beds, has been literally converted into a fairy land, through the taste and liberality of Professor C. U. Shepard. Luxuriant growths embroider the beds, and the hot-houses exhibit almost every variety of hot-house plants.

The present régime has wrought important changes in the management of our Roper Hospital.

Under a lease of this building from the trustees of the Roper fund, the city authorities for the past fifteen years have had entire control of this institution, making their own appointment of a medical officer from the list of dispensary physicians, whose jurisdiction extended over both medical and surgical departments, supervising even the financial affairs of the hospital.

This arrangement impaired greatly the value of such an establishment as a school of instruction for students in attendance upon the medical college in this city. The reputation of all such charities depends upon the professional fame and name of those representing the medical administrative element. If a hospital be an asylum for the sick poor, who are permitted to avail themselves of its charitable benefits only to be cured of their diseases, and then promptly discharged to make room for others, such a purely medical charity should be under the absolute control of the medical faculty; and, in order to secure the greatest share of medical and surgical skill in behalf of the welfare of its inmates, should be under the care and guidance of representative men in the several departments of our art, — the *dis majores* of the metropolis, city, town, or hamlet, as the case may be. But it has, until of late, been otherwise with us. The faculty had no right to intrude themselves; they could inaugurate no regular course of clinical instruction; they could not even present, nor operate on, cases which they may have sent to the hospital, except through courtesy partially extended by the attending physician, who necessarily regarded any proposition of the kind as an encroachment upon his prerogative, which he was at liberty to accept or decline as he pleased.

The faculty, long since recognizing the importance of a regular, systematic annual course of clinical teachings to students, attracted to colleges only which were able to offer such facilities, saw fit to urge these claims and requisitions of a high medical educational curriculum upon the intelligent consideration of the council; while they proposed that their own professional services

would be offered *gratuitously* to the city, giving every pledge on their part for the conscientious and punctual discharge of their self-imposed duties to the sick poor. Though some opposition arose in council upon the subject, as was to be expected, yet, as *nos besoins sont nos forces*, this appeal was not made in vain. The Roper Hospital has at length been turned over to the faculty of the Medical College, who have entire control now of all that concerns the medical and surgical treatment of the sick. Private cases in the practice of the professors are, whenever they see fit, brought to the hospital; and patients coming to the city addressed to either of these gentlemen are accommodated in private apartments, the appointments of which are in every respect suitable to pay patients, at a reasonable *per diem*.

Clinical instruction in various branches is given during the winter session to large classes; and all the year round clinical prelections are offered to those students remaining with us. These didactic lessons are perhaps the more useful because the more varied, since they are apportioned among six professors, a medical and a surgical clinician for each term of four months. Four house physicians, or *internes*, make up the complement of a full corps of professional attendants in constant and efficient ministrations upon the sick.

Not very anxious to encumber themselves with the financial concerns of the hospital, the medical faculty requested at once to be exonerated from such an additional tax upon their time and labors, and we are pleased to announce that a board of commissioners were appointed. This division of labor between the purely medical and administrative concerns of a hospital, in its operations entirely independent of each other, is a most provident arrangement, and was a consummation greatly to be wished for, particularly in view of the recent difficulties at Guy's Hospital and other organizations nearer home, which has worked admirably so far. With a laudable desire to exhibit their efficiency and interest in the welfare of the hospital, the commissioners have already improved the buildings in many respects, particularly in fitting up and embellishing the private apartments of pay patients; while further changes are in contemplation which will make the Roper Hospital one of the most complete and acceptable charities of its kind in the Southern States.

THE MEDICAL SCHOOLS AT LOUISVILLE.

UNIVERSITY OF LOUISVILLE. — The forty-fourth regular term begins October 1st, and lasts five months. Last session the school had 249 matriculates and 97 graduates.

LOUISVILLE MEDICAL COLLEGE. — The eleventh regular session begins October 1st, and lasts five months. Last session the school had 181 matriculates and 45 graduates.

HOSPITAL MEDICAL COLLEGE. — The seventh regular session begins October 1st, and lasts five months. There were 81 matriculates during last session and 31 graduates.

KENTUCKY SCHOOL OF MEDICINE. — The next regular session, which is the second since the reorganization of the school apart from the Louisville Medical College, will be held from March to June (inclusive). Number of students in last session, 99; graduates, 43.

There are four schools of medicine in Louisville, as above enumerated, — three holding their session in

winter and one in spring. Since the disruption of the Kentucky School of Medicine from the Louisville Medical College, a year since, the several schools pursue independent courses.

The plan of instruction in all is essentially the same, — by lecture and quiz. Recitation terms (optional) are held during the spring by the winter schools. Provision is made for graded course for such as desire it. There are daily clinics at the University and Hospital schools, and semi-weekly classes at the City Hospital, in which all the schools participate. The University supplies special demonstrators for microscopy, histology, chemistry, dressings, etc.

The Louisville schools are all members of the American College Association. The requirements for graduation are three years' study and two courses of lectures. They stand pledged to require three courses after 1882.

By mutual agreement of the winter schools, the lecture ticket will hereafter not be issued to matriculates until February. This is done to insure, somewhat, attendance at lectures.

The whole number of students present at the several colleges during last session was 546, of which 209 graduated. Owing to the fact that this year the opening of the preliminary term (September 20th) has been postponed a fortnight beyond the usual date, no estimate can yet be made as to the number of the coming classes, but the impression is strong that in spite of the increased fee for tuition, which will be exacted this year, the benches will be as full as usual.

THE UNITED STATES ARMY.

THE following memorandum is prepared for the information of persons desirous of entering the medical corps of the United States Army: —

[EXTRACT FROM LAWS OF THE UNITED STATES.]

Act of Congress, Approved June 30, 1834.

Section I. *Be it enacted, etc.* That from and after the passage of this act no person shall receive the appointment of assistant surgeon in the Army of the United States, unless he shall have been examined and approved by an Army Medical Board, to consist of not less than three surgeons or assistant surgeons, who shall be designated for that purpose by the secretary of war; and no person shall receive the appointment of surgeon in the Army of the United States unless he shall have served at least five years as an assistant surgeon, and unless, also, he shall have been examined by an Army Medical Board constituted as aforesaid.

Act of Congress, Approved June 23, 1874, and June 26, 1876.

Sect. IV. That the medical department of the army shall hereafter consist of one surgeon-general, . . . one assistant surgeon-general, . . . one chief medical purveyor, four surgeons, with the rank, pay, and emoluments of colonels, two assistant medical purveyors, . . . eight surgeons, with the rank, pay, and emoluments of lieutenant-colonels, fifty surgeons, with the rank, pay, and emoluments of majors, one hundred and twenty-five assistant surgeons, with the rank, pay, and emoluments of lieutenants of cavalry for the first five years' service, and with the rank, pay, and emoluments of captains of cavalry after five years' service. . . .

All candidates for appointment in the medical corps must apply to the honorable secretary of war for an invitation to appear before the Medical Examining Board. The application must be in the handwriting of the candidate, stating age and birthplace, and be accompanied by testimonials from professors of the college in which he graduated, or from other physicians in good repute. Candidates must be between twenty-one and twenty-eight years of age (without any exceptions), and graduates of a regular medical college, evi-

dence of which must be submitted to the board before examination.

The morals, habits, physical and mental qualifications, and general aptitude for the service of each candidate will be subjects for careful examination by the Board, and a favorable report will not be made in any case in which there is a reasonable doubt.

The following will be the general plan of the examination: —

I. A short essay, either autobiographical or upon some professional subject, to be indicated by the board.

II. Physical examination. This will be rigid, and each candidate will, in addition, be required to certify, "*that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of his duties in any climate.*"

III. Oral examinations on subjects of preliminary education, general literature, and general science. The candidate must satisfy the board in this examination that he possesses a *thorough knowledge of the branches taught in the common schools, and a failure to show this will end his examination.*

Oral examination on scientific subjects will include chemistry and natural philosophy; and that on literary subjects will include English literature, history of the United States, and general history, — ancient and modern. Candidates professing a knowledge of the higher mathematics, the ancient and modern languages, will be examined therein, and due credit given for a proficiency in any or all of these subjects.

IV. Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves; it is made an important subject in this examination.

V. Clinical examination, medical and surgical, at a hospital.

VI. Performance of surgical operations on the cadaver.

The board will deviate from this general plan whenever necessary, in such manner as they deem best to secure the interests of the service.

The board will report the merits of the candidates on the several branches of the examination, and their relative merit in the whole, according to which the approved candidates will receive appointments to existing vacancies, or to vacancies which may occur within two years thereafter.

An applicant failing one examination may be allowed a second after one year, but not a third.

No allowance will be made for the expenses of persons undergoing examination, as this is an indispensable prerequisite to appointment, but those who are approved and receive appointments will be entitled to transportation on obeying their first order.

THE UNITED STATES NAVY.

THE RELATIONS OF THE MEDICAL CORPS OF THE NAVY TO MEDICAL EDUCATION.

ADMISSION into the medical corps of the United States Navy can only be obtained through a professional examination before the Naval Medical Board, composed of medical officers of the higher grades. From the very beginning this board has assumed to be the sole judge of the qualifications of candidates, the mere possession of the diploma of a medical school having no weight whatever as an evidence of professional capacity; and the experience of the board has demonstrated that the most incompetent applicants

have been found among graduates of the great schools, while many of the ablest men of the corps have received their degrees from comparatively obscure institutions.

The candidate is presumed to have received a proper liberal education. A biographical sketch, an essay on some assigned subject, and written answers to a series of comprehensive questions in the various branches of medicine are intended as evidences of such proficiency, the orthography, grammatical construction, form, and manner of expression being as carefully scrutinized as accuracy of statement. An oral examination follows by the several members of the board in every branch of medicine, and upon such collateral studies as the candidate may have pursued, with the object not merely of ascertaining the amount of detailed information he may have learned by rote, but rather his intelligent comprehension of the fundamental facts and principles which constitute the science of medicine. Finally, extemporaneous chemical and pharmaceutic manipulations, the clinical diagnosis and treatment of actual patients in hospital, the adjustment of surgical appliances and apparatus, and the performance of operations upon the cadaver exhibit his cognizance of the practical requirements of the healing art, and his ability to assume its responsibilities, under the emergencies of a career which sometimes places the issue of life or death upon his unaided knowledge and skill.

A second examination is required for passing out of the grade of assistant surgeon, preliminary to promotion to that of surgeon, and took place, formerly, five years subsequent to the first. Recently the interval has been injudiciously lessened to the completion of two years' service on board a man-of-war. This examination presupposes a wider practical acquaintance with the various branches of medicine, particularly in the special departments which have arisen, and a familiarity with the current literature of the profession, facilities for which are now liberally provided by the Bureau of Medicine and Surgery, under the administration of its present chief, Dr. Wales. It has been the custom to allow a period of preparation for this final examination, but as its object is to ascertain the fitness of the individual for occasions when his knowledge as a medical or sanitary officer may be of need, it is manifest that such a preliminary cramming, evidencing a greater or less ability to memorize facts, is inconsistent with its real purpose, while it operates unequally upon the members of a class, under the diverse circumstances of their duty ashore and afloat. An impromptu examination, while it might not exhibit such finished results, would furnish a more accurate measure of the real acquirements of the class examined.

The bureau's interest in the officer does not cease with his final examination. Individual research and investigation are encouraged by the supply of apparatus, instruments, or opportunities required, and by the publication of essays voluntarily contributed, as well as by the requirement of annual medical and sanitary reports from every officer in charge of the medical department of a vessel or station, embracing the medical topography, climatology, and hygiene of every station or place visited, with all attainable information respecting statistics of disease and its causes, establishments for the care of the sick, charitable institutions, medical colleges, or other matters of professional interest.

A medical education, such as admission into the medical corps of the navy implies, has until quite lately scarcely been attainable through the ordinary curriculum of any school in this country, and those who have passed the examination have been men whose industry, ambition, and thirst for knowledge, under the guidance of competent preceptors, have impelled them to seek for themselves that fuller professional training of which they have felt the need. Happily, a number of the leading schools, disregarding possible pecuniary loss from smaller classes, have begun a reform in medical teaching, which promises to make their graduates as really "learned in medicine" as the phraseology of their diplomas implies, and ultimately we may hope that every reputable college will be compelled to the same thoroughness of teaching. This accomplished, the most sublime and profound and ennobling of the sciences will be delivered from the hands of empirics and sciolists into the keeping of men distinguished for their acquirements.

What is being sought to be accomplished for the whole profession the medical corps of the navy has aspired to make the patent of its own nobility, and its board of examiners may justly claim recognition for its pioneer efforts to exclude from fellowship the unworthy and incompetent.

ALBERT L. GIBON, M. D.,

Medical Director, U. S. Navy.

1736 I STREET, WASHINGTON, D. C.

UNITED STATES MARINE HOSPITAL SERVICE.

THE following extract from the regulations governing the Marine Hospital Service is published as showing who are eligible for examination:—

(24.) Original appointments of medical officers in the United States Marine Hospital Service will be made to the grade of assistant surgeon only.

(25.) Medical officers in the Marine Hospital Service will in no case be appointed to any particular station, but to the general service, being subject to change of station as the exigencies of the service may require, and shall serve in any part of the United States wherever assigned to duty by the secretary of the treasury.

(26.) No person will be appointed an assistant surgeon whose age is less than twenty-one or more than thirty years, and, as a preliminary to a recommendation for appointment, the applicant must have graduated in medicine at some respectable medical college, and must pass a satisfactory physical and professional examination before a board of surgeons of the Marine Hospital Service, which will be convened from time to time, for that purpose, by the secretary of the treasury.

(27.) The passing of an examination must not be considered as giving assurance of appointment, as the department will select those of the highest attainments in case there should be more candidates than vacancies.

(28.) No qualified candidate will be eligible for appointment more than one year. If not appointed within that time, he may, if he desires, be reexamined, when, if successful, he will take position with the class last examined.

(29.) An applicant failing at one examination may be allowed a second examination, after one year, but not a third.

(30.) Assistant surgeons, after three years' service, at least one year of which shall have been at a United States marine hospital, shall be entitled to an examination for promotion to the grade of passed assistant surgeon. The application for this examination must be accompanied with testimonials of correct deportment and habits of industry from the surgeons with whom they have served, and the applicant must be familiar with these regulations.

(31.) A vacancy in the grade of surgeon will be filled by promotion from among passed assistant surgeons.

All applications should be addressed to the surgeon-general of the service at Washington, D. C.

We extract from the annual report for 1880 the following, relative to the character of the examinations:—

"There is probably no branch of the public service to which the rules laid down by the civil-service regulations of 1872 can be more easily applied. The experience of this office has not only demonstrated their practicability, but has proved entirely satisfactory. The following table shows the number of candidates examined for the past five years:—

Year.	No. of candidates.	No. of branches in which examined.	Passed.	Rejected.	Percentage of rejections to whole No. examined.	No. invited to appear for examination.
1875	11	10	8	3	27 3-11ths.	—
1876	13	10	8	5	28 6-13ths.	—
1877	18	10	6	12	66 2-3ds.	38
1878	11	10	3	8	72 8-11ths.	35
1879	29	10	6	23	79 9-29ths.	52
1880	23	10	4	19	82 14-23ds.	43

The marking adopted has been in accordance with the scale recommended by the board of civil-service examiners of the treasury department in their report, dated January 21, 1873.

The scale is as follows:—

Best possible.....	100	Somewhat bad.....	40
Extremely good.....	90	Bad.....	30
Very good.....	80	Very bad.....	20
Good.....	70	Extremely bad.....	10
Somewhat good.....	60	Worst possible.....	0
Indifferent.....	50		

In an average examination the only branch in which the "best possible" may be obtained is of course anatomy, but it may be occasionally reached in the answers to certain questions in several branches. In the first four years during which these examinations were held, no examination in the common-school branches was made, but during the last year an oral examination in arithmetic, physics, and history has been added. Proficiency in these branches, together with a "personal history" showing the candidate to have had good advantages in schools or experience in hospitals, increases the marking under the heading "general aptitude." This heading is the one most likely to be misinterpreted by the enemies to the system, or by the friends of disappointed candidates, and yet it has been found impracticable to discontinue it. Under this heading is included the preliminary education of the candidate, his health, his personal appearance, as to neatness or slovenliness, as well as the general fitness for the service, as shown by examination-papers as a whole. The following is given as a specimen of the examination-papers, and shows the scope of the examination. The questions were propounded at the session of the board held in April, 1879:—

Anatomy. (1.) Name the bones of the cranium, the foramina at its base, and the structures transmitted through them. (2.) Give the origin and distribution of the trigeminus nerve. (3.) Describe the regions of the abdomen, and name the viscera contained in each. (4.) Name the parts divided in a circular amputation of thigh at middle of Scarpa's triangle.

Physiology. (1.) Give the histology and function of the kidneys. (2.) How is the nutrition of muscular tissue effected? (3.) Give the normal constituents of bile, blood, and gastric juice. (4.) Give functions of sympathetic system and spinal cord.

Chemistry. (1.) Describe the atom and molecule, and state what is meant by atomic weight and molecular weight of an element. (2.) Give the chemical reaction that occurs in an active galvanic battery composed of carbon and zinc plates and the fluid made by dissolving bichromate of potassium in dilute sulphuric acid. (3.) Describe the physical and chemical properties of alum, and give its formula. (4.) Mention the different forms of carbon, and give brief description of each, and name the most important combinations of this element.

Practice of Medicine. (1.) Describe the process of inflammation. (2.) Give, briefly, the symptoms and treatment of cerebro-spinal fever. (3.) What are the causes of anasarca? (4.) Give the differential diagnosis between eczema, herpes, and rupia.

Hygiene. (1.) Give, briefly, your views as to the best method of lighting, heating, and ventilating hospital wards. (2.) Assuming that the water supply of a hospital contains matters deleterious to health, what method would you use to discover the impurities, and to eliminate them? (3.) What, in your opinion, are the necessary articles and proper proportions of the same, for a hospital ration? (4.) What are the principal substances used as disinfectants and deodorizers, and what is their mode of action?

Surgery. (1.) Give the causes of compression and concussion of the brain, and their differential diagnosis and treatment. (2.) What are the causes of popliteal aneurism? (3.) Describe the treatment of compound comminuted fracture of the leg. Give the best method of management, and the possible dangers of the injury. (4.) Mention the symptoms, complications, and treatment of penetrating wounds of the chest and of the abdomen.

Obstetrics. (1.) Describe the foetal circulation and the changes taking place therein at birth. (2.) Give the causes and treatment of post-partum hæmorrhage. (3.) Give the causes, symptoms, and treatment of puerperal convulsions. (4.) Give the differential diagnosis between abdominal tumors, spurious and true pregnancy.

One day is devoted to clinical examinations at a hospital, which, with an oral examination, concludes the exercises.

FOREIGN SCHOOLS.

GREAT BRITAIN AND IRELAND.

THE number of examining bodies in the United Kingdom which grant degrees and diplomas capable of registration under the Medical Act of 1858 is nineteen; and the registrable qualifications obtainable from them amount to fifty-seven.

The following is a general summary of the conditions required on the part of candidates for examination. The regulations of the examining bodies are, with very few exceptions, framed in accordance with the resolutions and recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council, prior to which he must have passed an examination in subjects of general education. As evidence of this are recognized: (1.) The possession of a degree in arts of an university of the United Kingdom or of the colonies, or of some university recognized by the medical council. (2.) A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the Recommendations of the General Medical Council. The medical council recommends that no such certificate should be accepted by any of the licensing boards, unless it testify that the candidate has been examined in the following subjects: (1.) The English language, including grammar and composition. (2.) Arithmetic, including vulgar and decimal fractions, and Algebra, including simple equations. (3.) Geometry, the first two books of Euclid, or the substance thereof. (4.) Latin, including translation and grammar. (5.) One

of the following subjects at the option of the candidate: Greek; French; German; Elementary Mechanics of Solids or Fluids, meaning thereby mechanics, hydrostatics, pneumatics, and hydraulics. [On and after January 1, 1882, the following subjects will be required: (1.) English Language, including grammar and composition. (2.) English History. (3.) Modern Geography. (4.) Latin, including translation from the original and grammar. (5.) Elements of Mathematics, comprising (a) Arithmetic, including vulgar and decimal fractions; (b) Algebra, including simple equations; (c) Geometry, including the first two books of Euclid, or the subjects thereof. (6.) Elementary Mechanics of Solids and Fluids, comprising the elements of statics, dynamics, and hydrostatics (this subject may be passed either as preliminary, or before, or at the first professional examinations. (7.) One of the following optional subjects: (a) Greek; (b) French; (c) German; (d) Italian; (e) any other modern language; (f) Logic; (g) Botany; (h) Elementary Chemistry.] The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognized as dating fifteen days earlier than the date of registration. Forms of such registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the licensing body with which he intends to become connected): (1.) By attendance for one year on the practice of a provincial hospital or other public institution recognized for this purpose. (2.) As the pupil, for one year, of a legally qualified surgeon, holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities. (3.) By entering at once at a recognized medical school.

The minimum period of medical study required is forty-five months from the date of registration as a student, of which time at least two years and a half must be passed at a recognized medical school. For the degrees of the universities (except that of London) the candidate is required to spend a portion of the time of medical study at the university which grants the degree, or at a college in connection therewith.

To obtain a degree, diploma, or license, two examinations at least in professional subjects must be passed. The first examination may be completed at or before the close of the second year of professional study, and embraces the following subjects: (1.) Chemistry and Chemical Physics. (2.) Anatomy. (3.) Physiology. (4.) *Materia Medica* and Pharmacy. The second or final examination, which must not be passed until the completion of the fourth year of study, comprises: (1.) Pathology (including morbid anatomy). (2.) Medicine (including medical anatomy, clinical medicine, and therapeutics). (3.) Surgery (including surgical anatomy and clinical surgery). (4.) Midwifery. (5.) Forensic Medicine. This arrangement is of course subject to some variation; but the general principle of examining first in the elementary and afterwards in the practical subjects is invariably followed. Some of the examining bodies — such as the universities in Scotland — divide the examinations into three or four parts.

The medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Guy's, the

London, St. Mary's, the Middlesex, St. Thomas's, and Westminster hospitals; and the Medical Faculties of King's and University colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, and Mr. Thomas Cooke's School of Anatomy and Surgery.

In the provinces in England, there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; together with medical schools at Bristol, Leeds, Liverpool, and Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education; in fact, there is no medical school at Oxford; but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow, the Extra-Academical School in Edinburgh, and the Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

In Ireland, the medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland, and the colleges at Belfast, Cork, and Galway, in connection with the Queen's University in Ireland. There are also several medical schools in Dublin, namely, the Carmichael College of Medicine and Surgery; the Catholic University; Dr. Steevens's Hospital and Medical College; and the Ledwich School of Anatomy, Medicine, and Surgery.

FRANCE.

Degrees in medicine of the University of France are conferred by the faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons, under regulations laid down by the government.

(1.) The studies necessary for obtaining the degree of doctor of medicine last four years; during the first three years they may be carried on either in the faculties, in the *écoles de plein exercice*, or in the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be made in a faculty or in an *école de plein exercice*.

(2.) The candidates must produce, when they take the first inscription, the diploma of bachelor of sciences, limited as regards the mathematical part. They must undergo five examinations and defend a thesis. The second, third, and fifth examinations are divided into two parts. The *examens de fin d'année* are suppressed.

(3.) The five examinations are on the following subjects. First examination: physics, chemistry, medical natural history. Second examination: first part, anatomy and histology; second part, physiology. Third examination: first part, external pathology (surgery), midwifery, operative surgery; second part, internal pathology (medicine), general pathology. Fourth examination: hygiene, legal medicine, therapeutics, *materia medica*, and pharmacology. Fifth examination: first part, clinical surgery and obstetrics; second part, clinical medicine, practical demonstrations in pathological anatomy, and a thesis on a subject chosen by the candidate.

A foreigner holding medical qualifications to practice medicine, if desirous of obtaining the degree of the University of France, must show to the minister of public instruction his diploma, and the certificates of the course

of study which he has undergone in his own university or medical school. The minister, if satisfied, will authorize the candidate to present himself for the five final examinations (*examens de réception*). These are conducted in the French language. The fees are as follows: each examination 90 francs = 450 francs; thesis, 240 francs; fifteen inscriptions, 520 francs; three *examens de fin d'année*, 90 francs; diplomas of *bachelier ès lettres et ès sciences*, 100 francs; in all 1400 francs. It will be seen that the candidate has to pay all the fees, although exempted from the necessity of passing the preliminary examinations and those for the *bachelier ès lettres et ès sciences*.

Medical education in France is under the control of the state, and is given in the faculties of medicine and pharmacy, the *écoles de plein exercice*, and the preparatory schools of medicine and pharmacy.

The following are the conditions laid down by the French government for the recognition of a faculty of medicine: The city in which the school is established must pay a proper share of the expenses. There must be seventeen professorships, namely, anatomy, physiology, internal physiology (medicine), general pathology and pathological anatomy, hygiene and forensic medicine, operative surgery, therapeutics, materia medica, botany and zoology, medical chemistry, medical physics, pharmacy, and clinical midwifery,—each with one professor; and two professors each of clinical medicine and clinical surgery. There must also be eight assistant professors: two each for the natural sciences, medicine, and surgery, and one each for obstetrics and for anatomy and physiology. These assistants are selected by *concours*, and appointed for ten years.

The School of Medicine in Paris is open not only to the French public, but to all who wish to attend the courses and take degrees. Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 30 francs or more is expected from each student.

The medical sessions begin for winter on October 15th, and for summer on April 15th, of each year.

The instruction in the faculty of medicine in Paris is given by the following professors: M. Sappey, Anatomy; M. Robin, Histology; M. Béclard, Physiology; M. Wurtz, Medical Chemistry; M. Baillon, Natural History; M. Gavarret, Medical Physics; M. Regnaud, Pharmacology; MM. Jaccoud and Peter, Internal Pathology or Medicine; M. Trélat, External Pathology or Surgery; M. Guyon, Surgical Pathology; M. Le Fort, Practical Surgery; M. Hayem, Materia Medica and Therapeutics; M. Charcot, Pathological Anatomy; M. Pajot, Midwifery; M. Bouchardat, Hygiene; M. Brouardel, Forensic Medicine; M. Bouchard, General Pathology and Therapeutics; M. Vulpian, Comparative and Experimental Medicine; MM. G. Sée, Lasègue, Hardy, Potain, Clinical Medicine; MM. Gosselin, Richet, Verneuil, Clinical Surgery; M. Depaul, Clinical Midwifery; M. Panas, Clinical Ophthalmology; M. Parrot, Diseases of Children; M. Laboulbène, History of Medicine; M. Ball, Diseases of the Mind and Nervous System. Supplementary courses are also given on Diseases of the Skin, Diseases of Children, Venereal Diseases (M. Fournier).

There are laboratories for Normal Histology (under the charge of Robin); Physiology (Béclard); Path-

ological Anatomy (Charcot); Experimental Pathology (Vulpian); Therapeutics (Hayem); Biological Chemistry (Gautier); Pharmacology (Regnaud). The sphere of these laboratories is limited owing to imperfect accommodations and means; they are used chiefly by medical men and students preparing their theses.

GERMANY.

In the German empire there are twenty universities which possess a medical faculty and grant degrees in medicine; namely, those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practice medicine in this empire unless he has passed the Staats-Examen board. The law forbids any one to call himself *Arzt* (physician) unless he has passed the State Board, or doctor unless he has passed the examinations at some university, and thereby acquired the degree. The doctor who has not passed the State Board is not a licensed physician, and may hold no appointment; and if he practice has no power or right to insist on payment of his services. The physician licensed by the State Board, on the other hand, is not allowed to call himself "doctor," unless he has passed an university examination. The practitioner who is neither doctor nor physician practices at his peril; for though he is not forbidden by law to do so, yet, if any mishap occur from his ignorance, he is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

The expenses of passing the State Board are less than half of those for the faculty of an university, and the examination is more exclusively practical; hence it is selected by the poorer students, who seek only a rural practice. The majority of students pass both the university and the state examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma, either from an university or otherwise, can be obtained in Germany without a gymnasial certificate, to obtain which an examination must be passed at a German gymnasium (public school) in Greek, Latin, at least one modern language besides German, logic, the physical sciences, and mathematics. A candidate who cannot present this, or an equivalent certificate, must pass a preliminary examination in those subjects.

The number and character of professional chairs in the medical faculties vary greatly in the different universities; but in all we find three classes of teachers, namely, professors, extraordinary or assistant professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the state or university, a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased, according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the Minister of Public Instruction from a list of names recommended by the faculty.

The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*.

As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some universities they are furnished with rooms, and given a share of the clinics; at others they receive little or no assistance.

There are no independent schools in Germany. No one can open a course on his own responsibility, and the universities have alone the power to confer academic grades. The system of *privat-docents*, however, compensates in a great measure for this want of freedom. As the test of fitness for a degree in the university, or for the position of a practitioner in the state, is mainly the ability to pass certain examinations, and as the salaries of the professors are guaranteed by the state, it is evident that it makes little difference as to precisely when, where, or how the student gets his information, provided only that he really gets it.

There is, therefore, little objection to free, or, as it is sometimes called, "extramural teaching," and hence young men of ability can establish themselves as private teachers, demonstrators, etc., in the immediate vicinity of the universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. These *privat-docents* are subject to certain regulations, and follow in a general way the teaching and directions of the professor of the special branch to which they attach themselves; they are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

The course of study at the German universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some the course extends over four years. The following lectures are the least which will be accepted by any of the university faculties, and may be taken in whatever order the student may wish. The courses occupy nine and a half months in each year. For one year: chemistry, six hours weekly; physics, four hours weekly; zoölogy and comparative anatomy, three hours weekly; botany, three hours weekly; mineralogy and geology, two hours weekly; anatomy, histology, and preparation of specimens, ten hours, weekly; physiology and laboratory work, eight hours weekly; general pathology, pathological anatomy, and practical work, six hours weekly; pharmacology and toxicology, two hours weekly. For two years: special pathology and medical clinic at hospital, ten hours weekly; general and special surgery, hospital clinics, and operating, ten hours weekly for one year, or five hours weekly for two years. This course may not be taken at the same time as the previous medical course. Obstetrics and gynecology, with clinics, three hours weekly for one year; eye and ear clinics, use of ophthalmoscope, operations, four hours weekly for one year; forensic medicine, two hours weekly for one year.

The professors receive fixed salaries, varying from £120 to £480 annually, and increased every ten years by the addition of from £20 to £50. The students'

fees for the entire course vary in different schools from £36 to £52.

UNIVERSITY OF BERLIN.

The institutions for clinical treating connected with the university are: Professor von Langenbeck's Clinic for Surgery; the University Polyclinic (Dr. J. Meyer); the Ophthalmic Polyclinic (Dr. Schweigger); the Aural Clinic (Dr. Lucae); the Obstetric Clinic (Dr. Schroeder); the Institute for Practical Instruction in State Medicine (Dr. Liman); and, in the Charité Hospital, the Medical Clinic (Dr. Frerichs); the Clinic for Elementary Medical Instruction (Dr. Leyden); the Surgical Clinic (Dr. Bardeleben); the Ophthalmic Clinic (Dr. Schweigger); the Obstetric Clinic (Dr. Guesserow); the Gynecological Clinic (Dr. Schroeder); the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Heuoch), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; the physiological laboratory under that of Professor Du Bois-Reymond; and the chemical laboratory under that of Professor Hofmann.

SWITZERLAND.

In Switzerland degrees in medicine are granted in the universities of Basle, Berne, Geneva, and Zurich. These degrees do not confer a license to practice, for which a separate examination is required.

AUSTRIA.

The universities of the Austro-Hungarian Empire which possess medical faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbruck (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the universities are under government control, and the degree of doctor of medicine obtained at any of them alone gives the right to practice medicine in the empire.

The course of study required of candidates for the degree of doctor of medicine in the universities of the Austrian Empire extends over five years, or five winter and five summer terms or semesters. The following arrangement is recommended by the government. (The first, third, fifth, seventh, and ninth are winter semesters; the others are summer semesters.) First semester: systematic anatomy; experimental physics; inorganic chemistry, general botany; dissections. Second semester: systematic anatomy (second part); experimental physics (second part); organic chemistry; special botany; practical introduction to chemical analysis; practical introduction to the use of the microscope. Third semester: physiology, histology, medical chemistry; zoölogy; dissections. Fourth semester: physiology (second part); embryology; exercises in physiology, in histology, and in medical chemistry. Fifth semester: general pathology and therapeutics; pharmacology; pathological anatomy; pathological histology; post-mortem examinations; practical introduction to the physical examination of patients. Sixth semester: pathological anatomy (second part); special pathology, therapeutics, and clinic of internal diseases; special surgical pathology, therapeutics, and clinic; post-mortem examinations; exercises in pathological histology. Seventh semester: special pathology, therapeutics, and clinic of internal diseases; special surgical pathology, therapeutics, and clinic; diseases of

the eye; exercises in surgical anatomy (operations). Eighth semester: internal diseases; surgery or diseases of the eye; surgical operations (surgical anatomy). Ninth semester: internal diseases; surgery; theory and practice of obstetrics and gynecology; forensic medicine (exercises in obstetric operations); medico-legal exercises. Tenth semester: clinics of diseases of children, of diseases of the skin, and of syphilis (obstetrics and gynecology); exercises in obstetric operations (medico-legal exercises). Of the subjects included in parentheses one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

The examinations are public, and each member of the commission examines the candidate for a quarter of an hour. He is required to undergo three examinations for his degree.

The great clinics on medicine, surgery, etc., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the professors of the medical faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors.

CANADA.

The following are the Medical Examining Bodies and Schools in the several provinces constituting the Dominion of Canada.

NOVA SCOTIA. — University of Halifax Faculty of Medicine; Halifax Medical College.

ONTARIO. — College of Physicians and Surgeons of Ontario; Medical Faculty of the University of Victoria College, Coburg; Medical Faculty of Queen's College, Kingston; Royal College of Physicians and Surgeons, Kingston; Medical Faculty of the University of Ottawa; Toronto University Faculty of Medicine; Trinity College Faculty of Medicine, Toronto; Toronto School of Medicine; Trinity Medical School.

QUEBEC. — College of Physicians and Surgeons of Quebec; Bishop's College University Faculty of Medicine, Montreal; Laval University, Montreal and Quebec; McGill University Faculty of Medicine.

MCGILL UNIVERSITY FACULTY OF MEDICINE.

The matriculation examination comprises the following subjects: English language (including grammar and composition); Arithmetic (including vulgar and decimal fractions); Algebra (including simple equations); Geometry (first two books of Euclid); Latin (translation and grammar); and one of the following optional subjects: Greek, French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. Graduates in arts of recognized universities are not required to submit to the matriculation examination; and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec is accepted.

No one can be admitted to the degree of doctor of medicine and master of surgery who shall not, in this

or in some other university, college, or medical school, approved of by this university, either have attended lectures for at least four six-months' sessions, or studied medicine during at least four years, and during that time have attended lectures for at least three six-months' sessions.

Candidates for the final examination must furnish testimonials of attendance on the following courses: anatomy, chemistry, materia medica, and pharmacy, institutes of medicine, principles and practice of surgery, midwifery and diseases of women and children, theory and practice of medicine, practical anatomy, clinical medicine, clinical surgery, — each two six-months' courses; medical jurisprudence, — one course of six months, or two courses of three months; practical chemistry, botany or zoölogy, hygiene, — each one three-months' course duration; no less than twenty-five demonstrations upon microscopic anatomy, physiology, and pathology. Testimonials equivalent to, though not precisely the same as, those above stated may be presented and accepted. The candidate must have attended during eighteen months the practice of the Montreal General Hospital, or that of some other approved hospital, and have compounded medicines for six months. He must also have attended for at least six months the practice of the university or other approved lying-in hospital, and have attended at least six accouchements.

Every candidate for examination must have attended at least one session at this university, and one full course of all the branches included in its curriculum.

JAPAN.

In June, 1876, the number of medical practitioners in the returns of two cities and forty-three prefectures was estimated at 23,284, about twenty-one per cent. of whom were practicing medicine according to the Western system, and all of the remainder either according to the mixed systems of China and the West, to that of China and Japan, or to the pure Japanese one.

Knowing that it would be impossible to make the change to the new methods at once, and thus to secure uniformity, the government adopted a politic course. It strongly recommended to the young medical students to pursue only the most approved course of study, and to those now in practice to continue as in the past, or to make such changes as the exigencies or advantages of their practice might afford. In 1876 the late home minister, Okubo, issued a notification "that the examination of candidates for a certificate to practice medicine in accordance with the following regulations shall be introduced into every prefecture as soon as the condition of medical men in each prefecture shall admit: —

Regulations for the Examination of Candidates. Article I. Any one desirous to become a medical practitioner shall be required to apply for a certificate, which shall be given only after the prescribed examination has been passed satisfactorily.

Note. Any one who has been at the time of the issue of these regulations practicing medicine shall not be obliged to subject himself to an examination. The local authorities shall therefore take the proper measures to distinguish such medical practitioners from those who have been licensed after a satisfactory examination. . . . The subjects for examination for candidates are the general principles of natural philosophy, of anatomy, of physiology or pathology, of pharmacology, and the theory and practice of medicine and surgery. . . .

Article III. The examination shall be held at a convenient place, such as the local government office or public hospital; and the results shall be reported to the Home Department, which shall grant the certificates. . . .

In June, 1877 (the date of the last published report),

there was in Japan a population of 32,812,116, of whom 81,268 were medical practitioners (this enumeration includes all of the prefectures except Kagoshima), giving a proportion of 0.91 to the thousand of population. Of this army of "doctors," 20,568 were followers of the Chinese system; 4098 mixed and non-classified; 6402 the Western system; and 200 licensed after the prefectural examination. Though no official reports are at hand, yet the testimony of the native physicians in Hokkaido and at the line of hospitals in North Nippon is to the effect that Western medicine has made greater progress during the past three years than at any previous period; that the number of the Chinese school of doctors is decreasing; that the people are slowly being educated up to the advantages and benefits of the new treatment, though a very large number still adhere to the old methods; that local hospitals and dispensaries are springing up in all parts of the interior; and that the Western ideas of hygiene and sanitation are receiving increasing attention from all the local authorities.

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THE PROGRESS OF MEDICAL EDUCATION.

A GLANCE beneath the surface at the work done by our medical schools during the past decade in raising the standard of education shows an amount of improvement even among those colleges which have not adopted a new plan, or joined any special association, that one would hardly expect to find who had not followed closely the process of evolution so rapidly developed since an onslaught was first made upon the old system, which had maintained undisputed sway for nearly a century. A course of instruction which ten years ago was considered amply sufficient to enable the brain of Young America to digest the art and a handsome allowance of the science of a great profession, a course which received the indorsement of the leading men in the country, would now be disclaimed, if not openly despised, by any faculty having pretensions to "standing." The time occupied then in obtaining a degree would hardly suffice now to enable the student to complete satisfactorily a preparatory course of study. It was thought by students at that time evidence of unusual talent and an enviable record for one to get his degree in the smallest possible number of months. A man who "hung round" a medical school for three years was looked upon as a sort of dunce. At the present day, even at many of the schools which still hold on to the old go-as-you-please plan of study, it is thought quite the thing not to get through your anatomy, chemistry, and physiology until well into your second year, and "four-year men" are, we are happy to say, not only the "very latest style," but also quite a popular one.

The tide of reform has acted so unequally upon different localities, and has been so much modified by various currents and eddies, that we have thought the present season a peculiarly appropriate one to take a new survey of the situation; and although we have allowed in each case friendly hands to heave the lead, we think the educational number which we present to our readers is a tolerably correct chart. It is not intended, like many of our foreign exchanges, to present a "student's number," but is designed rather for the use of teachers, or those who wish to form an opinion which will enable them to advise a young man where best to seek his medical education. For purposes of comparison we have given a brief account of the most prominent of the European schools. The regulation of the practice of medicine is a subject which is pressing itself more and more strongly upon professional men in this country. It should be distinctly understood by the community that the motives which influence medical men in the movement are akin to those which prompt them to urge the adoption of hygienic laws and the study of state medicine; it is for the protection not of the profession, but of the people. Professional prejudice apart, it really seems as if the time had come when something should be done for the relief of a most unmercifully beswindled and bequacked country, of which in this sense, if in no other, our own poor city may indisputably claim to be the hub. The theory that perfect liberty in the selection of one's medical adviser, no matter what his or her qualifications may be, is the inviolable right of every American freeman is certainly a plausible one, but let our legal friends crack this gaudy shell, and they will find inside the bogus-diploma crab, the medium snail, and a collection of vermin which might have put poor Pandora to the blush. We have therefore presented a few of the medical practice acts, — unfortunately there are very few to choose from, — and those selected cover the legislation which has thus far been accomplished in this direction. The States which are without any protection of this kind are also largely in the majority, but we have faith that the medical profession have influence, when they choose to exert it, to bring about the needed reform. Dissecting laws, like vivisection laws, are delicate subjects, and difficult to handle in a way that will not excite fear and distrust among the ignorant. We are at stated intervals, however, reminded somewhat sharply that these are questions which will not take care of themselves, and in view of certain recent unpleasant and unsavory occurrences, the influence of which, we have no doubt, every demonstrator in the country has since felt in a greater or less degree, we open in the present number a series of articles on the anatomy acts, which we are sure will prove an interesting and valuable contribution to the subject.

NOTE. The materials we have collected together in the present number have largely been prepared specially for the JOURNAL; we have to acknowledge our indebtedness for a portion of the statements in regard to foreign schools to an abstract in the *London Medical Record*, from Hardwicke on Medical Education and for the description of Japanese education to a letter from Dr. J. C. Cutter in the *Philadelphia Times*.

Lectures.

CLINICAL LECTURE ON CHLOROSIS.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY PROF. T. GAILLARD THOMAS, M. D.

GENTLEMEN,—The patient upon whom I propose to base a few remarks to-day in regard to an affection of considerable interest is a young woman, eighteen years of age, a native of the United States, and unmarried. The account that she gives of herself is that she was perfectly well up to a few months ago, when she began to suffer with a pain in the left side, which has continued to a greater or less degree ever since, and which is always aggravated by exercise. More recently she has suffered from a pain in the back, and this is all that she complains of, with the exception that she feels weaker than she used to, this weakness being especially noticeable when she goes up-stairs. She is quite regular in regard to her monthly periods, although the flow is now so slight as barely to amount to a "show." Her bowels are regular also, she says, and she digests her food well.

We thus have all the history which the patient has to give, and I trust that while she has been answering my questions you have been watching her attentively, as you should always do while you are drawing out the history of the case, whenever a patient comes to consult you. You observe that the entire complexion of this girl is not only very pale, but that it is in addition of a somewhat greenish hue. Her pulse I find to be over 100 and quite small. It is by no means that of an inflammatory condition, because it is very soft and compressible. Auscultation of the heart reveals the existence of a loud basic murmur, which can also be heard along the course of the large blood-vessels. Her tongue is white, soft, and indented by the teeth, while at the same time it is found to be very pale, as are also the lips and inner surfaces of the eyelids. In fact, wherever we examine the mucous membrane, we find that the red globules of the blood do not show as they ought, so that she has the appearance of one who has lost much blood. So far from this, however, she has lost, as we have seen, scarcely any at all.

Such cases as this are usually brought to us for either amenorrhœa, obstinate constipation, or phthisis, the more or less rapid emaciation leading the patient's friends to suspect the latter trouble. What attracts our attention particularly, however, is the peculiar discoloration of the skin, and this ordinarily affords us the clew to the true nature of the case. The disease from which this girl is suffering occurs, as a rule, just at the age at which she has arrived, or, in other words, at the age of puberty,—say from sixteen to eighteen,—when all the functions undergo more or less alteration. The name which we give to the affection is one which has been in common use for centuries now.

Why is it that this girl is so weak and so pale, and why does she suffer so much from this pain about the cardiac region (which is, indeed, the principal symptom of which she complains)? Some might call it a case of anæmia or spanæmia, the latter term signifying not too little blood, but poor blood. If you were to pass through the wards of Bellevue Hospital, you would see spanæmia under a great variety of conditions. One patient, for instance, would look very pale, and, on inquiry, you would find that he was suffering

from albuminuria. In Bright's disease, not only is the albumen drained from the blood, but, in addition, there is actual deterioration of the life-giving fluid from a poison that is poured into it. Another patient would attract your attention by his appearance of spanæmia, but instead of having Bright's disease, you would find that he was suffering from well-marked malaria. In still another there would be no blood-poisoning whatever, but simply the result of loss of blood from hæmorrhoids, for instance. This is not strictly anæmia, however, for the man has just as much blood as ever, and it is therefore better to call the case one of spanæmia, as there has been merely an increase of the watery element of the blood.

But now, is the case before us one of anæmia or spanæmia? I do not think it is, but, on the other hand, regard it as something entirely different. This I can show you, I think, by comparing it with the other cases which have been suggested. Take the man suffering from malaria, for instance. Give him a sufficient amount of quinine, remove him to a perfectly healthy locality, feed him up well with nourishing food, and in a single month he would probably be almost if not entirely well. Or take the one suffering from bleeding hæmorrhoids. Tie his piles, and give him plenty of iron and other tonics, and in six weeks he will be perfectly well. But now take this girl (and I pass over the supposed case of Bright's disease, because the spanæmia seen in that case, like that of phthisis, is due to irremediable causes). Give her as much iron and as much food as you choose, and after months and months she will probably be scarcely at all improved.

What she is suffering from is a disease called by the old writers *chlorosis*, and long popularly known as the "green sickness," from the peculiar discoloration of the skin which characterizes it. Those who suffer from it usually menstruate regularly for a time after they first arrive at the age of puberty, and then this trouble begins to develop. As a general rule, it seems to be originally due to some strong mental or emotional disturbance, and nostalgia is regarded as one of its most frequent causes. The mother of such a young woman at first notices that she is getting very pale, and then becomes alarmed because her menses are diminishing to such an extent that she fears they will cease altogether. Instead of lasting six or more days, as before, there is merely a show of blood that does not continue for as many hours, perhaps. Other symptoms that generally follow are obstinate constipation, disordered primary digestion, irregularity and violence of the heart's action, and marked nervous disturbances.

Although the case now before us is not a very strongly marked one, its features are sufficiently distinct to enable you to obtain a fairly good idea of the affection in question; for unless you are pretty well informed in regard to it, there is great danger of mistaking the diagnosis in such cases. What, then, is chlorosis? I believe it to be a disease of the nervous system, and the latter, as you know, is always profoundly impressed at this period of life. While it is in this state of exaltation, as it may be called, something (we do not know exactly what) may possibly go wrong with it, and, as a result, we have this chlorosis, in which all the functions, and especially that of blood-making, are more or less interfered with.

But what is the use, it may be asked, of making a diagnosis between spanæmia and chlorosis? Because

not only is the prognosis, but also the treatment, very different in the two conditions. In simple spanæmia iron is of the very highest service, but this is not the case where chlorosis is present. Hence you will sometimes hear one physician say that iron does no good whatever in his hands, while another will claim that it is a most valuable remedy, and one that seldom disappoints him. In the present case I do not think that iron would accomplish much. Then I believe that the ganglionic system has been affected by some malign influence, although we possibly may not be able to discern precisely what the trouble is. The treatment that will answer in simple spanæmia is therefore not sufficient in such a case as this. The patient requires something more, and I feel sure that if she could only have a complete change of scene, with something new constantly to engage her attention, for a number of months, she would recover more quickly than if any other course were pursued. In cases where it is impossible for patients to go upon a prolonged tour, lesser changes in the manner of life are often of great service. Thus, an alteration of the surroundings at home, the removal from school, the change from the city to the country, and *vice versa*, all prove beneficial in certain instances. Besides, it is important to improve the nutrition in every way possible, and hence the patient should have as much food (especially of a kind that will make blood rapidly, such as milk, eggs, animal broths, etc.) as she can digest. Not that this will really reach the disease, but as poorness of the blood is one of the principal features, it should be our aim to counteract this as well as we can. To this end, therefore, the patient, instead of having three meals a day, should take about six, although the intermediate ones may be light, and consist principally of fresh un-boiled milk. Nine tenths of patients will tell you that they cannot take milk at all, as it makes them bilious and constipated, but with a little care they can all be educated so as to be able to take any amount of milk that is necessary for them. But when I say that food should be taken at frequent intervals I do not by any means ask you to overload the stomach, and care should always be taken that the diet should be of the proper character, and that too much nourishment should not be given at once.

There are also certain medicines which are useful as adjuvants, and among them I may mention iron, and such nerve tonics as the hypophosphites, strychnia, and arsenic. Small doses of Fowler's solution, I have found, will often do much more good than iron. In addition, a proper amount of exercise is imperatively demanded in most cases of chlorosis. It is not enough for the patient to walk, but she should also engage in such gymnastic exercises as light calisthenics. One form of such exercise which I have found of the greatest possible service is that which the rowing-machine affords, and I usually direct such patients to work on it, with a very light oar, for fifteen or twenty minutes three times a day. This, then, is the general plan to be pursued in chlorosis, and if it could be carried out in the present instance I think that in six or eight months we might see considerable change in the patient. We should not expect too rapid results, however, and I would be perfectly satisfied if she were entirely cured in the course of a year. Of course, were it simple spanæmia that we had to deal with, a complete recovery could no doubt be effected in a very much less space of time.

Original Articles.

DEEP ABSCESS OF THE NECK.¹

BY D. W. CHEEVER, M. D.

SUPPURATION of the connective tissue beneath the deep cervical fascia is of moderately frequent occurrence. The anatomical arrangement of the parts concerned makes it both insidious and dangerous. The neck is closely packed with flexible, mobile, and vital structures. The muscles are long muscles, slender and vertical, with the exception of the hyoid groups, which act as stays in preserving the central position of the hyoid bone. The neck revolves upon the vertebrae, and bends up and down and from side to side. The movements of respiration are, though slight, incessant, and the corresponding movements of blood in the great veins are largely influenced by the full or empty condition of the lungs and of the right auricle of the heart. The movements of deglutition are frequent and violent, though occasional, and as essential to life are only secondary in importance to those of respiration. To secure freedom of action the muscles of the neck, as well as the pharynx, œsophagus, larynx, and trachea, are very loosely joined together by what was formerly called areolar or cellular and is now called connective tissue. Particularly does the pharynx, carrying with it the larynx, slide with great freedom on the prevertebral group of muscles. And in swallowing quite strong vertical motion is communicated to the hyoid bone, to the cricoid cartilage and trachea, and to the œsophagus.

That this free motion may be carried on harmoniously and without displacement of individual parts the neck is enfolded in a strong membrane called the deep cervical fascia. It compresses the sterno-mastoid muscles, forming the sheath of the great vessels, and below swings the arch of the aorta and the pericardium by a continuation of its fibrous membranes. Attached behind to the spines of the vertebrae and ligamentum nuchæ, the deep fascia first forms a covering for the whole front of the neck, of varying density, and then sends processes in between the muscles. It is attached above to the lower jaw, below to the clavicle and sternum, and also takes a strong hold of the styloid process under the name of stylo-maxillary ligament. While thus bracing and compressing the muscular system of the neck and the carotid artery and internal jugular vein, it leaves the trachea and œsophagus free behind to slide on the bodies of the vertebrae, and it forms no boundary between the neck and the anterior mediastinum or the apices of the pleural sacs in the subclavian triangles. It follows from this that if fluids, either inflammatory or hæmorrhagic, should be poured out in the cellular interspaces of the neck they are firmly shut in from reaching the surface by the fascia, but not at all restrained from burrowing and gravitating behind and around the œsophagus and trachea into the thorax. It follows also that large amounts of inflammatory or other effusion speedily fill and distend the sac of the fascia, and then press profoundly on the great vein, the vagus nerve and the pharynx, the œsophagus, and back of the trachea.

This is the anatomical history of deep abscess of the neck.

¹ Read at the meeting of the Boston Society for Medical Improvement, October 11, 1880.

Ordinary acute cellulitis from any cause may locate itself under the sterno-mastoid muscle, as well as in the connective tissue of the palm or the axilla. The effusion of serum and leucocytes and fibrin having taken place is stopped by the fascia from reaching the surface, and burrows in and among the sheaths of the long muscles. Prevented, possibly, by the motion of the parts, or else originally of a low grade of inflammation, it fails to form an efficient lymph wall to the abscess, but assumes the form of diffuse suppuration. The process is acute and rapid. The accompanying symptoms are intense and the suffering profound. There is chill, fever, sweat, great rigidity and immobility of the neck, serous effusion under the skin, brawny and pitting exudation in the superficial cellular tissue, gradually a dusky redness, but no fluctuation. A very few days accomplish these stages. The neck is held on one side, the saliva dribbles away, the act of swallowing becomes excessively difficult, and yet an inspection of the fauces, by the mouth, reveals no obstruction. Graver symptoms now come on. The voice is hoarse, and finally whispering, respiration croupy. Edema of the glottis follows the continuance of the serous effusion, which always forms the outer zone of the suppurating process, and spasm of the glottis is produced by pressure on the laryngeal branches of the vagus. Unless relieved, the patient either dies rapidly, by suffocation, or lingers with a chronic suppuration burst into the mediastinum, or an empyema, from gravitation.

Deep abscess of the neck attacks adults. It differs from the ordinary and frequent suppuration of the lymphatic glands of the neck in being acute and spreading. Usually the superficial lymphatics lying along the external jugular vein are the seat of suppuration. They inflame in childhood, rise easily to the skin, and burst. When the deeper layer along the carotid sheath inflames it is a chronic, tuberculous form of suppuration, extends very slowly, and is in the form of a cold abscess.

Alveolar abscess in some of its vagaries resembles deep abscess of the neck. Pus forms in the tooth socket, drills the alveolus, escapes into the cellular tissue, and may gravitate down the neck above the deep fascia or beneath it. But it is chronic, not diffuse, and not productive of profound symptoms. Nature has time to accommodate her functions to gradual pressure and gradual infiltration, just as she does in the cold abscess of the lymphatic gland. Alveolar abscess makes adhesions, hard lumps and bands, and long fistulous tracts, sometimes opening as low as the clavicle or acromion. It is rarely dangerous.

Facial erysipelas, assuming the cellulito-cutaneous or phlegmonous form, may end in deep abscess of the neck. This is, if possible, more dangerous than acute deep abscess alone, since we have the added perils of hardened chains of lymphatics which always accompany erysipelas, and the risk of plugging of the veins which frequently follows it. Erysipelas, however, is by no means a constant cause of deep abscess. The latter exists alone quite frequently, and is to be defined as a *spreading cellulitis of the connective tissue of the neck*. Its course is rapid and fatal; its treatment simple in the extreme. The difficulty lies in the diagnosis and in appreciating what is coming.

Incision through the deep fascia to let out the inflammatory exudation is the treatment. The obstacles are the absence of fluctuation and the dangerous locality for

such incisions. Sometimes the abscess can be reached behind the sterno-mastoid muscle. Ordinarily we have to open over the superior or inferior carotid triangle. The infiltration is great and the pus is deep. It can be safely evacuated by a method known as Hilton's. Make an ordinary incision parallel to the sterno-mastoid until you reach the deep fascia. Raise and nick this, as in tying an artery; then abandon the knife and take a director, or a pair of dressing forceps, or even the little finger, and bore down between the muscles and cellular interspaces until pus is reached. With ordinary prudence the veins will not be perforated, and they are more likely to be injured than any other part. Relief is immediate and complete. Subsequent treatment should comprise free drainage and syringing with antiseptics, tonics, good liquid food, and opium. Occasions arise where tracheotomy is instantly called for, before seeking for pus. The deep, brawny infiltration and swelling in these cases render it an unpleasant and hazardous operation.

I have seen six cases of deep abscess of the neck. The first was in the second year of my practice. The patient was a feeble Irishwoman at the North End, seen by a poor candlelight on a winter evening. She was sitting, supported, in a chair, breathing with labor, faint, and partially collapsed. She had been able to swallow nothing, the voice was whispering, the pulse very weak, suffering extreme. The neck was enormously infiltrated, pitting, and reddened. Having, fortunately, explained to the friends her danger, I made an incision and got pus, but she collapsed and died while it was flowing.

The second case was some years later, in a young man, intelligent and in good circumstances. Warned by the former case, and seeing him comparatively early, I persuaded him to take ether, and peaceably reached and evacuated the pus. He recovered.

The third case I was called to on a cold night in the town of Weymouth. The symptoms were very urgent, but the patient strong and young. I ventured to give him a little ether, and reached pus, with entire relief.

The fourth case was at the City Hospital, a strong young Irishman. Symptoms severe and progressive. Fortunately I recognized the commencement of edema of the glottis at a morning visit. Opened by the method described, and with entire relief.

The fifth case was in the hospital. A man was brought in in the afternoon with swollen throat. I did not see him. Urgency of symptoms was not recognized. In the night the house officer was called in haste, and found him suffocating. He promptly and fortunately opened the trachea. The next day I etherized and reached pus. He recovered.

The sixth case was a dissipated and poverty-stricken woman in the hospital. At my morning visit I saw her and recognized the disease. The whole space between the sterno-mastoids was brawny and much swollen, saliva dribbling, nothing in the fauces, voice nearly extinct, pain great, pulse 140, temperature 102° F. History of exposure to wet and cold. I gave a little ether, and reached pus. She then breathed better. I then etherized fully, and made large openings in front of and parallel to the sterno-mastoids, finding extensive infiltration and offensive pus, with sloughs. Rubber drainage tubes were put in and syringed. She recovered. The disease had dissected so much that she suffered from adhesions afterwards.

A CASE OF IDIOPATHIC ANÆMIA; RECOVERY UNDER THE USE OF ARSENIC (FOWLER'S SOLUTION).

BY R. T. EDDES, M. D.,

Professor of Materia Medica in Harvard University, and one of the Visiting Physicians at Boston City Hospital.

SINCE Dr. Addison first (and best) described a peculiar form of anæmia of unknown origin, calling it "idiopathic," but more especially since the disease received its German baptism at the hands of Biermer as "progressive pernicious," cases have not been infrequently reported which with considerable regularity justified, in spite of all treatment, the later designation.

Since, however, cases have been observed where the diagnosis was open to no reasonable doubt, but which formed exceptions to this rule, it appears as if the earlier title, which expresses no opinion as to prognosis, were to be preferred.

The following case, though showing nothing new, does, I think, add one to the small number of those which have recovered, not from the use of either of the two methods of treatment which would at first sight suggest themselves, but which all experience in this disease has shown to be in most cases useless or worse,—that is, first, large doses of iron, and, second, transfusion of blood,—but from a drug which, however difficult may be the physiological explanation of its action, has been empirically proved to possess great value in this as in other forms of anæmia, namely, arsenic.

J. A., aged forty-one, single, American, ship carpenter, entered the City Hospital on May 11, 1880. He is said to have had a "heavy cold" two years ago, and not to have been well since. Works at his trade at intervals. No further cause for his condition was discovered, although the records fail to show just how searching the cross-examination may have been, and it is not now possible to complete them.

He is a man of large frame, good muscular development, and though not inclined to obesity, like many subjects of this disease, yet by no means emaciated. His complexion is exceedingly pale, with hardly a trace of red, somewhat yellowish in hue, with the tint of anæmia but not of jaundice.

He complains of weakness, headache, dyspnoea on exertion, loss of appetite, and general malaise. His sight is dim, and he is somewhat deaf. His aspect is listless and apathetic. Has had a very slight cough without any expectoration. Epistaxis occasionally. Considerable pain in lumbar region. Not much vomiting, but food distresses him. Bowels usually costive.

There is but a slight amount of ascites now, but he says his bowels have been much larger.

No œdema of feet or ankles at present, but they have been considerably swollen. He complains of palpitation.

Pulse is 90, the heart-sounds feeble, and there are systolic souffles both at the base and apex. The sphygmograph shows low tension. The spleen measures ten or eleven cm. The lower edge can be felt by the fingers thrust deeply under the rib during inspiration. The hepatic dullness extends a little below the border of the ribs.

May 12th. Urine slightly smoky, acid, 1024. Trace of albumen. Sediment; pus, blood, granular and very few epithelial casts. May 14th. High colored, 1012. Albumen, slight trace, a few hyaline casts.

On May 12th he began to take tincture of chloride of iron, thirty minims every four hours. On May 17th

this was omitted, and Fowler's solution, five minims, substituted. Quinia was given for some time, citrate of magnesia and guarana for an occasional headache, and from time to time a cathartic.

At first his appetite was very small, and he had much nausea. A "liquid food" which had been sent to the hospital, which I think was largely composed of blood preserved by alcohol and aromatics, but which I found contained a large amount of albumen coagulable by heat, was used by the mouth, and, combined with pepsine, by the rectum.

May 22d. Afterwards eggs with pepsine were given as enemata. Soon after he made an unauthorized addition to his diet by eating a hearty dinner of ham and eggs.

On June 8th his urine contained nothing abnormal.

From this time on his appetite, strength, and complexion rapidly improved, until on July 4th his patriotism became so irrepressible that he left the hospital without leave, and I have been unable to get hold of him since. He is said by persons at his boarding place to have left for parts unknown, and to have been pretty well when he went away. Further tidings it has been impossible to obtain.

As detailed above the case presents but little to distinguish it from an ordinary convalescence, and a critic might suggest, in view of the first examination of urine and the history of some œdema, that he had had a mild nephritis. In fact, he was for a short time supposed to be suffering from renal disease. This supposition, however, is negatived by the very rapid disappearance of all symptoms which could be interpreted in this way, even at a time when the patient was not in the least improving as regards the general condition, and the progress was regarded by himself and attendants as very unfavorable; and more especially by the state of the blood, which I did not report with the other symptoms, as the progressive improvement in its globular richness can be best seen by bringing the successive counts together.

The first examination of the blood showed in the most distinct manner to the naked eye its extreme poverty in red corpuscles. It appeared, as issuing from a puncture, of a pale pink color and extremely thin and watery.

Under the microscope the corpuscles were found not only very few in number, but deformed both as to size and shape. Many were much smaller and a few larger than the average. They were irregularly distorted, pear-shaped, globular, or nearly so, some with distinct tails as if a portion were being pinched off; others were distinctly and deeply cupped, and gave one the impression of the swelling of a distensible mass, tending to retain somewhat of its original shape, within an indistensible but flexible envelope. One would be likely to suppose that they might be deformed because of floating in a serum of density less than normal. In fact, I am inclined to think that a considerable part, if not all, of the deformity in shape was due to an altered relation between the density of the corpuscles and the serum in which they floated. This would very well account for one of the most frequent distortions observed, namely, a disk which had nearly become a sphere, but with two slight indentations, like a foot-ball nearly but not quite blown up. I have since noticed this same appearance to a less extent in the blood corpuscles from an anæmic patient probably with malignant disease, and a globular richness of a little over two million. A very good idea of the various forms assumed may be formed from the

plates accompanying a very interesting lecture on this disease, by Dr. Finny, in the *British Medical Journal* for January 3, 1880, which not only confirmed the diagnosis, but suggested the treatment apparently so successful.

The blood countings were made with a Gower's hæmocytometer, as arranged under Dr. Amory's direction.

It should be said that the difference between the first three countings is not beyond the usual limits of error, unless very great care is taken and a large number of fields counted; a somewhat tedious process in the midst of ordinary clinical work, and not altogether agreeable to eyes not of the strongest. The first two observations (three counts) probably signify that no material change had then taken place.

My instrument gives in presumably healthy blood five million or more red corpuscles to the cubic millimetre.

Red corpuscles in one cubic millimetre:—

May 20th	{ 740,000
May 27th	{ 820,000
May 31st	735,000
June 7th	955,000
June 14th	1,290,000
June 24th	{ 2,002,000
	{ 2,070,000
	2,595,000

As the proportion of red corpuscles increased, that of the deformed ones diminished.

It has been quite generally acknowledged by all writers upon this disease that iron is very far from producing the favorable effect we might naturally anticipate, and in most cases utterly fails in usefulness.

One case, however, is reported by Dr. Byrom Bramwell,¹ where the patient, who was unable to bear arsenic, recovered under the use of iron. The latter drug, however, has been the most essential part of the treatment in those other few cases, reported by Dr. Bramwell and by Dr. Finny,² which have recovered, and it is difficult to avoid assigning to it an important share in the exceptional result.

In this case the dose was not large, being five minims of Fowler's solution at first, afterwards increased to seven and one half; suspended for a day or two on account of swelling beneath the eyes, and resumed at a little smaller dose.

Transfusion of blood has been a resource to which the thoughts of the physician, in presence of so hopeless a condition, would naturally turn, but it has proved a delusive one. It has never been of any permanent value, and Dr. Pepper has shown³ that it is "not free from grave danger."

RECENT PROGRESS IN DERMATOLOGY.⁴

BY E. WIGGLESWORTH, M. D.

NO GENERAL TREATMENT FOR SYPHILIS BEFORE THE GENERAL SYMPTOMS.

Professor v. Sigmund called attention⁵ last year to the vast experience upon which he based his dictum, repeated in his article of this year,⁶ upon syphilis,

¹ Edinburgh Medical Journal, November, 1877.

² Loc. cit.

³ American Journal Medical Science, October 1875.

⁴ Concluded from page 349.

⁵ Wien. med. Wochenschr., No. 10, 1879.

⁶ Wien. med. Wochenschr., No. 16, 1880, et seq.

namely, no general symptoms, no general treatment. Mercury, potassic iodide, etc., he considers useless and often harmful, if given for treatment of the initial sclerosis before subsequent constitutional manifestations are present. The initial lesion is not healed thereby, the consequences of the infection are not in any way averted, the general health may be impaired. There is no "humanity" in too early treatment. Unity or duality of the virus is by no means a settled question, and there is very often serious difficulty or impossibility in deciding between the simple venereal ulcer and the initial sclerosis of syphilis. The latter, like the former, may disappear without treatment; its consequences always follow. And yet forty per cent. of healthy people attacked by syphilis suffer so little subjectively or objectively that neither they nor their physicians necessarily become aware of the existence of the virus in their systems. Too early general specific treatment is a pandering of medical science to lay superstition. By local and general hygienic treatment, however, much is to be gained. The existence of other general or of local venereal diseases must be particularly regarded. Diet is to be considered, and especially is the importance of absolute cleanliness of every part of the person to be borne in mind. Here individual portions of the body liable to be affected later by lesions belonging to the secondary stage, and also individual idiosyncrasies, must not be forgotten. It is rarely sufficient to lay down general rules, in the foolish hope that the average patient may possess by instinct the knowledge the physician has been years in acquiring; minute details are to be taught and to be enforced by frequent supervision. This supervision is needful on account of the recklessness, the bad habits already formed, the stupidity, and the helplessness of the patient, and also from the fact that, owing to the privacy insisted upon, many means of affording relief are excluded, and it is indeed a test of patience, and usually a thankless labor. These facts show the need of special hospitals for the treatment of syphilitic patients. The parts to be daily inspected and most carefully cleaned are those liable subsequently to erosions, ulcerations, pustules, etc., such as the genitals, anus, vulva and vagina, scalp, mouth, nares, throat, umbilicus, nipples, axillæ, elbows, and knees, and the belly, breast, and back, where the erythema is most liable to first present itself. The neglect of cleanliness of the entrances to the body is often followed by quite serious consequences, to the mouth and throat in particular. Do not allow violent changes from old habits. Gauge the diet by the exertion demanded by daily life. Business must not be allowed to exhaust the patient. Good ventilation is needed, but no special raising of the temperature of the house. Scrofulosis, tuberculosis, and anæmia in youth, in age, and in pregnant women call for special attention.

COMPLETE AND UNIVERSAL ALOPECIA FOLLOWING FRIGHT.

Total baldness coming on rapidly is usually the result of severe fevers, and is followed by entire restoration to the normal condition. A case of Frédet⁷ is cited,⁸ however, which may perhaps be regarded as a unique one. A healthy Italian blonde, aged seventeen, lymphatic, with exceptionally profuse hair, was sewing at her window. Suddenly the floor fell in, leaving her

⁷ Annales de la Société de Méd de St. Etienne, Arch. gén., 1879.

⁸ Allg. med. Centr.-Zeitung, March 6, 1880.

only time to catch hold of the window frame, where she hung till taken down by means of a ladder. No subsequent loss of consciousness nor nervous excitement through the day. At night headache, chills, and bad dreams. In the morning nervous excitement, weakness at the knees, spasms in the fingers, and great itching of the scalp. The following day she felt better, only the itching of the scalp remaining. But on arranging her hair whole tufts came out at the roots, adhering to her comb. In three days not a single hair was left on the scalp. Eyebrows, eyelids, axillæ and genitals, began to lose their hair the day after the falling began from the scalp, and in five days these regions were devoid of hair. General health good and no functional disturbance of any kind. A month after the fall of hair began Frédet was consulted. The fallen hair, destined for a wig, was fine, silky, very rich and long. Not a hair on the body, though a lens was used in the search. Head smooth as a billiard ball; no more itching, and sensation normal. Physical condition otherwise, perfect. Mentally the patient has become despondent, fearing non-recovery of her hair. Two years later, after constant treatment, no return of the hair.

ICTHYOSIS CORNEA.

Boegehold furnishes¹ the case of a boy aged nine and a quarter years, healthy till three months old, then developing warty formations upon palms and soles until these were covered. Otherwise healthy, as were parents and the other children; no disease of the skin ever known of in any other generation of the family. When the warts appeared, the parents would snip them off with scissors; but as they continually reappeared, the patient was brought to the surgical station for the district, in Berlin. The whole palms and soles were at this time covered with spine-like protuberances, one to one and a half centimetres high. These extended to the volar aspect of the fingers and the plantar aspect of the toes, but were here less prominent. The bed of the nails was affected, the nails loosened, stunted, and brittle. Over each knee a space, one by one and a half centimetres in extent, showed spines one quarter centimetre long. The rest of the skin of the whole body was healthy. The formation upon the hands and feet was colored green by spore production. The spines, under the microscope, proved to be of exclusively epithelial character. Papillæ hypertrophic, cutis otherwise not thickened. A single layer of nucleated round cells, two deep, surrounded the papillæ as a glove the finger. The rest of the epidermis consisted wholly of flattened, polygonal, unnucleated cells, such as usually occur superficially only, and the spines consisted solely of these. The process is an abnormally rapid turning to horn of the new epidermal cells. These lose their elasticity and flatten by mutual pressure. The excessive development of epithelial cells forming the spines can arise from the deep layers, which, though now horny, can still proliferate; or, what is more probable, the thin layer of double round cells, above mentioned, is the sole matrix of all the new cells. The thickened, stratified mass of cells now dries and cracks into separate spines under the influence of motion, friction, etc. The spines were removed several times by the scraping spoon. Under dilute lead water the skin rapidly healed. Soap or a weak solution of potassa was used subsequently upon the intact integument. No arsenic nor other internal treatment was

¹ Arch. f. path. Anat. u. Physiol. u. f. klin. Med., March 8, 1880.

employed. Up to date the spines have always been renewed, and the contest has apparently resolved itself into a question of the comparative staying powers of the round-cell stratum and of the scraping spoon.

CEREBRAL SYPHILIS.

The curation of cerebral syphilis, says Atkinson,² consists in the treatment of processes essentially syphilitic; and it must be kept in mind that, apart from these, the results of syphilitic disease of the brain are identical with those of various other affections; they are the indelible traces of a battle that has, may be, long since been fought. Three cases are given by the writer of cerebral syphilis, where not one of the symptoms of brain disease observed presented a feature which could, in any special sense, be termed syphilitic which could not, equally well, be produced by a non-syphilitic malady. Yet they show that widely different morbid conditions may arise from the same source, and that this source, probably more than any other in the pathology of these affections, is within the influence of our art. But it daily happens that their true nature remains unrecognized, and patients drift into suffering, helplessness, imbecility, and death for lack of mercury and potassic iodide. Remember, however, that to cure these cases they must be treated while the *specific* processes are developing or in full activity; when the membrane is hyperæmic and beginning to thicken, the gumma forming, the artery narrowing; and not after the essential parts have been destroyed or crowded out by the unwelcome stranger. Almost any given case may have a syphilitic origin, recognizable often by the curious combinations of symptoms displayed.

RINGWORM UPON THE HEAD.

Dr. N. Smith furnishes³ some valuable hints regarding tinea tonsurans. Physicians are apt to consider this disease cured, when it is only chronic. Hair may be growing freely and firmly again on the part affected, but if the lens shows scurfiness and broken hairs or stumps scattered among the new hairs, the disease is there. Or where these hairs have been removed by friction or epilation, the patent follicles, which if filled with dirt or with stumps broken off on a level with the surface of the scalp show as black dots, mark where broken hairs have retracted within the follicles. Especially dangerous are cases of old "disseminated ringworm," the hair growing freely over the whole head, no patches, and skin nearly free from scurf, and yet individual stumps are to be found irregularly distributed, and require close examination. At times actual stumps are not seen, but shortened, irregular, twisted-looking hairs, sometimes lying quite flat on the scalp, and of a lighter color, which, on attempted epilation, break off and show the fungus when examined. The stumps are about two mm. in length and often of a lighter color than the rest of the hair [or may be made so by chloroform. — REP.]. They tend to break off, and epilation must be several times repeated, the diseased stump protruding again in a week or ten days, and this fracture and renewal going on for months. All affected parts of the head must of course be simultaneously treated, or reinfection continues endlessly. The long hairs rarely contain the spores. The regular, equal-sized, and bead-like arrangement of the bright and circular conidia, with their double-contoured outline and nu-

² Reprint from Trans. Med. Soc. of Virginia, 1879.

³ Lancet, January 10, 1880.

clear contents, on or in the substance of the hair, are easily distinguished from oil globules, which last are also dissolved by the addition of ether. The fractured, fagot-like appearance of the broken end of the stump is also most characteristic. Ringworm attacks all, but especially the lower classes. Of a school of boys examined, fifty per cent. had *tinea tonsurans*; of the girls examined for admission into Christ's Hospital, 33.3 per cent. The disease seems more contagious among children under ten years of age, and rare after the age of fourteen. It sometimes appears as pustular spots with stumps of hairs in their centres, — nature's process of cure, and often to be imitated with advantage. Pure carbolic acid dissolved in one to three parts of glycerine, according to the extent of the disease or the age or idiosyncrasy of the patient, penetrates the follicles freely, the hair having been previously shaved from the patches. For the whole head in young or weak children a weaker solution should be used. Apply two or three times daily, and rub well in with a bit of sponge tied to a stick. Nurses will shirk this duty if not watched. At night a weaker solution (one in ten) may be rubbed over the whole head to destroy any stray conidia. This treatment must be continued some three months or more. The head should be washed twice a week, and the patches kept cut close and epilated. Caps may be used at night; otherwise the sound skin of the cheeks may be irritated by contact with the pillow-case where it has been saturated from the hair. For recent patches glacial acetic acid may be used. A parasiticide which will cure one child may fail with another. The body, especially the neck, should be frequently examined when the head is affected, and *vice versa*, ringworm of the body being often only secondary to chronic disease of the scalp.

MILIARIA FROM CONTACT WITH ASPARAGUS.

Guntz reports¹ the case of a woman, aged forty, blonde, fat, pale and unhealthy in general appearance, sister of a restaurant keeper, who had the task, during asparagus time, of washing and cutting the raw asparagus. This occupation lasted all day, and was carried on in a special room. Baskets full stood around her. The atmosphere of the chamber was intensely aromatic, causing sneezing and prickling of the eyes. The patient had never been affected during previous seasons, and had never had any other kind of disease of the skin. Examination showed redness and swelling of the hands and arms as far up as they were left unprotected by the rolled-up sleeves, with numerous miliaria vesicles, each surrounded by a dark areola. The palms of the hands were softened and wrinkled by the asparagus juice, like the hands of washerwomen. The face and neck down to the clothes were reddened, swollen, and blistered; the eyelids more red and chemotically swelled; the forehead up to the hair reddened, and showing some scattered vesicles. Severe conjunctivitis with smarting, nasal catarrh with sneezing. Rest from work brought a cure in a few days. A return to the same labor caused instant redness, but no formation of vesicles. The following year, under the like circumstances, a redness appeared, but not severe enough to cause discontinuance of work. In subsequent years the patient has escaped any attack. A niece of sixteen, a blonde, was similarly affected and obliged to give up this form of work.

¹ Reprint from *Viertelj. f. Dermatol. u. Syph.*, 1880.

SYPHILIS OF BLOOD-VESSELS.

Lues venerea may affect the vessels of the body universally and to any extent, just as it may attack simultaneously any number of the other organs. Dr. Huber records² the case of a puella publica who began her trade at the age of eighteen, and within three years was twice treated for "specific" disease. Two weeks after leaving the hospital for the second time, apparently well, her urine became cloudy, and an oedema, beginning at the lower extremities, soon spread over her whole body. General health still good. Entered the hospital again two weeks and five days from the day of leaving it. General oedema. Signs of fluid in thorax and abdomen. Slight difficulty in respiration. Diminished secretion of urine, pale but cloudy, with albumen, pus cells, and casts. Vomiting. Diarrhoea. Weak action of heart. Physical weakness. Mental depression. Restlessness. Trembling of hands. Having entered the hospital the 11th of February, she died the 19th of May, comatose. The necropsy showed that all the vessels except those of the brain and head were diseased and extensively calcified, especially the arteries. Amyloid degeneration of spleen, intestines, mesentery, and of liver, with fatty degeneration also of the last. Amyloid nephritis of right side. Pylonephrosis of left side. Uteritis. Cystitis. Hydropsanasarca. Some hydrothorax and hydropericardium. Ascites. Thrombosis of vena cava inferior and of vena cruralis dextra. Emboli of arteries of lungs. Ulceration of intestines and of larynx. In both lungs cheesy and fresh inflammatory infiltrations with bronchiectasis. Excessive oedema of lungs. Sacral decubitus. The microscope showed every grade of inflammation of the vessels from slight thickening to the most marked calcification, especially of the small arteries of the extremities, and that the venous as well as the arterial system participated in the process. These conditions and the intact state of the cerebral arteries and those of the heart vary essentially from the usual characteristic alterations found in such cases.

DERMATOPHONY.

Hueter's article³ upon dermatophony in 1878 excited the attention of clinicians as well as physiologists, as suggesting a possible marked advance in means of diagnosis of disease. Senator and Guttman⁴ confirmed Hueter's views, and attributed the origin of the r les to the capillary circulation; Hering, however, to muscular contraction, and Lewinski to original, and Fraenkel to secondary oscillation of membranes. Dr. Feinberg, superintendent of the hospital at Korvuo in Russia, has pushed his investigations even farther.⁵ The capillary circulation was increased and diminished under mechanical and chemical agents, and yet much the same sound as under normal conditions was noticed. The skin was removed and the dermatophone applied directly to the muscles; the sound was louder than before. A gutta-percha membrane was substituted for the skin; the r le was that obtained when the skin was in position. When the skin was raised and the inner surface listened to no result was observed. The skin was raised at two sides and left attached on two sides, and a thin plate interposed: here, if the plate lay close on the muscles, the r le was

² Virchow's Archiv., March 8, 1880.

³ Berl. klin. Centralblatt, No. 51, 1878.

⁴ Berl. klin. Wochenschr., No. 10, 1879.

⁵ Berl. klin. Wochenschr., No. 12, 1880.

heard whether the skin was cut away or left in position over the plate; if the plate was taken away from the muscles, by raising it with the skin, no sound was audible. In cases of paralysis from disease, or from section of the spinal nerves in dorsal or lumbar regions, the sounds were unaltered. The leg of a rabbit was shaved, compressed with Esmarch's bandage; the muscles cut through to the bone, and the bandage then removed. The foot was cold, pulseless, cyanotic. The sound was nearly normal, so also much later, and had not disappeared after twenty-four hours. The skin being now raised, and the dermatophone applied to the bare muscles, the sound was louder. The sound existed until mummification of the whole leg had taken place. This conflicts somewhat with the idea of an origin from capillary circulation. To test this the kidney, which consists chiefly of capillaries, was listened to directly, it having been lifted from the opened body of a healthy, living rabbit, and its connections all retained. An evidently continuous r  le was heard. The vessels at the hilus were ligated. The r  le was heard as before. The wound was sewed up, leaving the kidney outside. After twenty-four hours kidney gangrenous, *r  le still audible*. Experiment repeated, the capsule being removed and the ureter tied. R  le as before. A dead kidney, from a slaughtered animal, gave a moderate r  le. The liver, lungs, heart, and muscles did not. In one case, where the animal lived a week after one kidney was tied, the other kidney was at necropsy hypertrophied, and gave a very marked continuous r  le, greater than that of a healthy kidney, and this r  le continued *after the kidney had been long preserved in spirit*. As the necrotic kidney suggested a dead one, so the latter suggested other inanimate material, and india-rubber gloves filled with wool, loosely packed, were found to give the r  le in proper form: strongest at the ends of the fingers, elsewhere less marked. Tight packing prevented the r  les. The element of elasticity must be considered, and the removal of the membrane of the dermatophone weakened, but did not destroy the sounds.

SUBCUTANEOUS INJECTIONS OF BICYANIDE OF MERCURY.

G  ntz has experimented¹ upon fifty cases of syphilis with hypodermic injections of bicyanide (not cyanide) of mercury 1.0 gramme, aq. dest. 100.0 grammes. This must be kept in separate small bottles, as it is decomposed by exposure to the air. It is good as long as it retains its odor of hydrocyanic acid. One gramme is injected each time, containing of course exactly 0.01 gramme of the mercury. This preparation causes less pain than the sublimate. From twenty to fifty injections were needed as the average. Cases treated were in every stage of the disease, had had no treatment, or all treatment had failed, and were kept under observation from three months to two years after "cure." Very marked improvement occurred in every case after three to five injections. Only three cases of salivation. Pain was the chief objection to this plan of administration of the drug, which in different cases was therefore employed daily, or only every second day. Whenever mercury is indicated, and other means fail, G  ntz recommends this form of treatment, especially for painful ulcers with crusts, and even for pains in the bones, the suffering being speedily removed.

¹ Reprint from Wien. med. Presse, 1880.

PRURIGO.

Prurigo was first clearly defined by Hebra, the father of modern dermatology. He regarded it as an incurable disease. In 1876 his distinguished assistant, Neumann, advanced the opinion that in very young children, and in them alone, the disease was curable. In the recently published treatise of Hebra and Kaposi this view is also entertained. More recently Simon² regards it as "curable in children under four years of age." All have considered it as incurable in adults. In addition to two cured cases of children, Geber now relates³ a case of "cure of a very inveterate form of prurigo in an adult," the first such case on record. The patient, a youth of nineteen years, pruriginous from earliest childhood, received a daily sulphur bath, and was inuncted every second day over whole body with a one per cent. carbolic-acid oil, after which he lay several hours in bed enveloped in blankets. Internally he took Fowler's solution and water equal parts, in gradually increasing doses up to twenty drops per diem. In six weeks, patient being greatly improved, carbolismus set in. The patient lost strength and appetite; there was headache; thin, grayish, bad-smelling stools; greenish urine; cold skin. Under tannin, red wine, and dilute sulphuric acid, he recovered in ten days. Treatment resumed, omitting the carbolic-acid oil, and in a fortnight patient went home on trial for three months.

He then returned. There had been no new efflorescences; the lymph glands were scarcely swollen at all. Objective appearances very good, nearly normal. Subjective sensations almost nil. For a month two sulphur baths were administered daily, also the carbolic-acid inunction and three drops of the arsenical solution, and the youth was allowed to attend school, from which he had previously been compelled for many years to abstain. For the next month pure olive oil was substituted for the oil and carbolic acid. In about a month more the baths were reduced to one per diem, the rubbings with oil to one every second day. The dose of Fowler's solution and water had by this time reached fifteen drops. Three weeks later oil discontinued and arsenic gradually diminished. Discharged apparently cured after another month. To continue baths and diminishing doses of arsenic. Four months after discharge the youth passed his physical examination for military service as "able bodied and fit for service." Since that time a year has passed, and there has not been the slightest sign of a relapse of the disease. The skin is still dark colored, but normal otherwise; no adenitis; no prurigo papules nor itching. This case shows that hope should never be lost; treatment always instituted, and long and patiently adhered to. External circumstances, improved nutrition, and careful attention to the condition of the skin are of the highest importance.

Reports of Societies.

QUARTERLY MEETING OF THE RHODE ISLAND MEDICAL SOCIETY.

VIRGIL O. HARDON, M. D., SECRETARY.

THE regular quarterly meeting of the Rhode Island Medical Society was held in Providence on Wednesday.

² Weber, Prurigo und die Behandlung derselben mit Pilokarpin, Berl. klin. Wochenschr., 1879, No. 59.

³ Wien. Med. Wochenschr., 1880, No. 19.

day, September 15, 1880, the president, Dr. Charles O'Leary, of Providence, in the chair.

Dr. George D. Hersey read a paper for Dr. O. C. Wiggin, giving the report of a case of Embolism of the Middle Cerebral Artery. The patient, a man aged twenty-five, while in ordinary health, was suddenly seized with loss of speech, paralysis of the entire right side of face and body, and vomiting. The pupils were moderately dilated, the temperature normal, pulse 50, respiration irregular and sighing, perspiration profuse. The tongue when protruded was turned to the left. There was no paralysis of the bladder. He remained in this condition until the third day, when his breathing became decidedly stertorous, the temperature rose to 101 °F., the pulse to 120, perspiration ceased, and he passed urine unconsciously. He died sixty-five hours after the first attack. The patient was born cyanotic, and during his infancy frequently had "purple spots" on various parts of his body. He had malarial fever in childhood. He was always subject to frequent attacks of nose-bleed. The autopsy showed the dura mater to be feebly adherent to the left second frontal convolution. Diffuse extravasations of blood and lymph were found beneath the sheath of the superior longitudinal sinus for two thirds of its length. The middle cerebral artery with all its branches was filled with coagulated blood. The clot was confined to those portions of the arteries lying in the fissure of Sylvius. Beyond the points where the arteries entered the brain substance, they were empty and collapsed, but not obliterated. The lining of all these arteries was bright red, softened, and wrinkled longitudinally. Nearly all those portions of the brain supplied by the occluded vessels were in an advanced stage of yellow softening. The corpus striatum was completely broken down, forming a mere granular pulp. Other portions of the brain were normal. Upon examining the heart a curious anomaly was found, the auriculo-ventricular septum being entirely absent, the two chambers forming one continuous cavity.

Dr. Edward T. Caswell reported a case of stone in the bladder which he had removed by litholapaxy. The patient, a man aged forty-three years, had suffered for two years with the usual symptoms of stone, of which an examination showed the presence. The stone was crushed with Thompson's fenestrated lithotrite and the bladder washed out with Bigelow's evacuator. The searcher was then introduced and the bladder found to be free from fragments, so that a second introduction of lithotrite or evacuator was unnecessary. The time occupied by the operation was thirty minutes. The calculus was composed of oxalate of lime and weighed forty-three grains.

Dr. Harold F. Ernst, interne at the Rhode Island Hospital, showed a specimen of aneurism of an intercostal artery, the rupture of which was the cause of the death of the patient. He also showed the trachea of a woman who committed suicide by cutting her throat. The wound healed readily, but so much cicatricial contraction followed that the trachea was nearly closed thereby and the woman died of suffocation, having refused to permit the performance of tracheotomy.

Dr. A. G. Browning reported a case of trifacial neuralgia of eight years' standing which was cured by daily applications of direct and inverse constant currents of electricity for six months, one pole being placed over the cervical plexus, and the other at different points over the course of the nerve.

Dr. William F. Hutchinson read a paper upon neurasthenia, and reported three cases from his own practice illustrating the three varieties into which he believes that all cases may be divided. The division is based upon the ætiology of the affection, and the classes may be named cerebral, gastric, and genital, according as the cause arises in the brain from overwork or other exhausting influences, in the stomach from chronic indigestion, or in the genital organs from sexual excess or other irritating local causes.

Dr. William S. Bowen reported three cases of nephritic inflammation of the retina which had recently come under his observation. The symptoms in all were similar, and consisted in failure of vision in one eye with a blur over objects viewed from a distance. The urine was loaded with albumen and contained epithelial casts. The ophthalmoscope showed the characteristic appearances of albuminuric retinitis. The first two cases were in male subjects, the third in a woman after confinement.

Dr. George W. Porter read a paper upon Battey's operation. He stated the conditions which render the operation necessary, as (1) cases of neurasthenia arising from long continued ovarialgia and dysmenorrhœa, with accompanying cellulitis and uterine displacement, the whole nervous system being shattered by the frequently recurring pain and by malnutrition, and every organ in the body suffering from the nervous perturbation arising from the long-continued disease of the pelvic organs; (2) cases of epilepsy and insanity arising from ovarian irritation acting upon the chief nervous centres either directly through the sympathetic nervous system, or indirectly by gradual impairment of general nutrition; (3) cases where the ovaries are present, but there is arrested or imperfect development of some other of the sexual organs, whereby menstruation is rendered impossible although the menstrual molimina occur regularly; (4) cases of subperitoneal or intramural fibroid of the uterus causing uncontrollable hæmorrhage or otherwise endangering life, while the tumor cannot be removed. The writer gave statistics of one hundred and forty-seven cases which he had collected, of which number one hundred and eighteen recovered from the operation and twenty-nine died (nineteen and three fourths per cent.). Three methods of operating have been advocated, the vaginal, the abdominal through the linea alba, and the direct lateral. The percentage of recoveries from the operation is slightly greater by the vaginal method, but the percentage of cures of the original trouble is greater by the abdominal. All things considered, the abdominal method is preferable in the large majority of cases. It is necessary to remove every particle of both ovaries, as the least vestige remaining may serve to keep up the menstrual molimina. The manner of performing the operation was fully and clearly described.

Dr. A. E. Tyng reported that the patient upon whom he performed Battey's operation several months ago had recovered, and the uterine fibroid which had previously caused hæmorrhage and dysmenorrhœa was diminishing in size and had ceased to give rise to any troublesome symptoms.

Dr. William F. Hutchinson read a letter received by him from Dr. William A. Hammond, of New York, expressing the opinion that Battey's operation should never be undertaken unless there is unmistakable ovarian disease, and even in that case only after all other remedies have proved unavailing.

Dr. S. S. Keene read a paper giving an account of three cases of intermittent fever which he recently treated at Drownville, R. I., on the shores of Narragansett Bay. The affection was well marked in all the cases, and the patients had never before had malarial disease or lived in any malarial region. Each was cured by a single dose of twenty grains of sulphate of quinine. Twelve cases similar to these have occurred in the same village within six weeks, and at Nayatt, one mile distant, there have been ninety cases of fever, apparently of the intermittent type. Cases have also occurred among the summer residents along the shore. Extensive excavations have been made at Nayatt, including many acres that are filled with rain-water having no outlet. This water, as well as that of all the ponds in the vicinity, has been much lower than usual during the past summer. This is the first time that an epidemic of intermittent fever has ever been observed in Rhode Island.

The secretary announced the death of Dr. William B. Greene, of East Greenwich, a member of this society, which occurred from yellow fever on board the steamer Acapulco in New York harbor, while returning from Aspinwall.

EXTRACTS FROM THE RECORDS OF THE MID- DLESEX EAST DISTRICT MEDICAL SOCIETY.

GEORGE E. PUTNEY, M. D., SECRETARY.

THE two hundred and ninth regular monthly meeting of the society was held at Winchester, March 24, 1880, at the house of Dr. Winsor. After supper Dr. Winsor read a paper on Angina Pectoris with Rupture of the Heart, which was substantially as follows:—

“Pain in the region of the heart, occurring in paroxysms, which usually radiates over the left side of the thorax and left arm, more rarely over both sides and arms. The pain is associated with a peculiar sensation of anxiety and constriction, and often with other motor, vaso-motor, and sensitive disturbances. The period between the paroxysms is free from pain, and usually from all other symptoms.”

“Such is the definition given by Eulenburg in Ziemssen’s Cyclopædia; and he says further that the disease is evidently a *neurosis*, and may be classed with the visceral neuralgias. It is sometimes called stenocardia. The name of angina pectoris originated with Heberden more than a century ago, when it was first recognized.

“It appears that there is no lesion or pathological condition of the heart, or of the great blood-vessels in the neighborhood of the heart, with which angina has any constant or necessary connection, although it occurs in many cases of valvular disease, of atheromatous deposit in the aorta, pulmonary artery, and especially in the coronary arteries.

“But it fails to occur in many cases where the autopsy proves the existence of the above-named lesions. Moreover, in some severe and fatal cases of angina, the autopsy does not detect any of these lesions, or any other pathological condition to which the ‘breast pang’ may be attributed.

“It appears to be from the absence of any characteristic morbid change, or any inflammatory condition during the attacks, from the complete relief between the paroxysms, and from the peculiar and characteristic but indescribable sensation of distress and alarm, while yet there is no disturbance of the brain, that angina pectoris is classed with the neuralgias.

“In addition to these reasons, experimental physiology has thrown important light on the nature of this disease.

“In the paroxysms the face may be flushed or pale; the pulse may be full and violent, or small, irregular, and intermittent. The pale face and small, irregular pulse are more common, and as the attack passes off these are succeeded by general flush and gentle perspiration, with the pulse often full and strong.

“Prognosis must be unfavorable in proportion as physical examination can detect organic disease of the heart or great vessels. But even in the absence of all evidence of structural changes we should naturally give a guarded prognosis.

“Treatment must, of course, be directed to the immediate relief of the frightful suffering of the paroxysms, and subsequently to the avoidance of every exciting cause. At present we seem to be too much in the dark to be able to direct our treatment toward the removal of any morbid condition of which angina pectoris may be supposed to be symptomatic.

“It is evident that powerful and speedy remedies alone can be of service during the paroxysms; and it is equally evident that our intended remedies may act most disastrously by exaggerating functional disturbances, or by enfeebling vital power at the critical moment.

“For this reason, I should not dare to administer chloroform, however much I might wish for speedy relief.

“On the other hand, I should dread to stimulate by alcohol. Morphia subcutaneously, ether by inhalation, and in the cases marked by pale and shrunken face, nitrate of amyl by inhalation, are the remedies to which I should resort during the paroxysms.

“In the way of prevention we can only urge the importance of a most temperate, guarded, and unexciting mode of life, giving the patient detailed cautions.”

The writer here reported “a case, the diagnosis of which was for a long time difficult, and may now be called in question.”

The following is an abstract of the case:—

A merchant, aged sixty-two, fat, weighing two hundred and twenty pounds, of correct habits, and highly gifted with mental and physical powers, about two and one half years ago had several sudden attacks of distress while walking up hill. The feeling was described as “an oppression and constriction in the carotid regions, with a sense of *dread*.” No other symptoms were then noticed, except one or two that indicated tardy digestion.

Diagnosis: temporary exhaustion of the nervous centres.

Prognosis: without absolute rest, the functional disturbance might become structural.

Treatment: rest and regimen.

Result: eighteen months of apparently perfect health; during which time he effected several heavy life insurances on himself, and passed a first-class examination six months ago.

February 25th he went to Albany on important business; he retired at night in his usual health, but was soon attacked with a chill and greater distress in both carotid regions than he had ever before experienced.

He returned to Boston on the early train, and remained at his home in Winchester five days, during which time he had no more trouble.

He then ventured a trip to Boston, but returned the

same day, having had a severe attack at his office, during which he became ashy pale.

Dr. H. J. Bigelow saw him soon after, and expressed the opinion that it might be angina.

March 3d, during a quiet but long business interview at his home, another attack came on, in which the writer saw him. There was no change in his pulse, temperature, respiration, or pupils. There was no pain, only *distress and constriction in the neck*. There was a grayish color of the ears and scalp, but the face retained much ruddy color. A very careful examination detected no fault in the thoracic organs. Chemical and microscopical examination of the urine found nothing abnormal.

In the afternoon of the same day Dr. Calvin Ellis saw him in consultation, and after a thorough examination agreed with the writer that the attacks were neuralgic; distressing and dangerous because the disordered nerves pertained to vital organs, but probably would not shorten life.

If a name must be given to them it must be angina pectoris. From this time the patient was kept upstairs, and was comfortable till ten P. M. of March 6th. In this attack, which lasted three and one half hours, the pulse varied and intermitted. The forehead and ears were ashy gray at times; still there was no pain. The distress extended in a less degree from neck to præcordia, and even epigastrium. Under the use of amyl nitrite the face flushed and partial relief was obtained, but subcutaneous morphia was more effective. He got one fourth grain twice, and then one fifth grain.

On the 7th Drs. Ellis and Harlow saw him, and detected nothing wrong in the heart or lungs. "We all thought," said the writer, "that he would recover, and be able to lead a quiet life comfortably, though we informed the family that sudden death might occur in some future attack."

From the 7th he remained in bed, felt better and hopeful. The pulse was 100 until the 10th, when it became stronger and regular at 94. About midnight of the 10th he quietly died without pain or distress.

Autopsy by Dr. W. F. Whitney thirty-six hours after death.

Head not opened. Nothing abnormal noticed in the abdominal cavity.

Diaphragm at the fourth rib on the right side, and at the fourth intercostal space on the left side.

The pericardium contained about seventy-five cc. (by estimate) of dark coagulated blood. Its lining was healthy.

The heart was large, but not so in relation to the size of the individual, and weighed four hundred grammes. Commencing near the apex of the left ventricle was an interrupted rent with ragged edges, extending towards the base for a distance of seven cm. in length. This rent communicated with the cavity of the left ventricle.

Upon opening the heart, the apex of the left ventricle was found to be filled with a dark reddish clot mixed with grayish portions. The walls of the left ventricle measured nine mm. in thickness, except in the neighborhood of the rent above mentioned, where they were exceedingly thin.

The color of the muscle was a reddish-brown. Under the microscope it showed a deposit of pigment in the neighborhood of the nuclei, and the dark transverse markings of the fibres were more marked than normally.

In the vicinity of the rent, however, the characteristic appearance of the muscle was lost, the muscular fibres being here filled with a granular material and in many places with minute fat drops. The grayish portion of the clot above mentioned presented muscular fibres in the same degenerated condition.

At the base of the aortic valves were several small yellowish patches raised above the surrounding level, but the hydrostatic test showed the valves capable of good closure.

The other valves, as well as the right heart (the ventricle of which measured four mm. in thickness of its walls), presented nothing unusual. The walls of the left coronary artery from the point of origin to the place where the superior branch is given off were thickened, and their inner surface was covered with yellowish-white patches, some of them with a roughened base, slightly sunk below the surrounding level, and others smooth and slightly raised above the level. At one point, about three cm. from the origin of the artery, one of these patches had so far protruded into the lumen of the vessel as to cause a coagulation of blood at that point, which coagulum had become adherent to the walls, thereby preventing the flow of blood through the vessel.

The portion of the heart in which the rupture had occurred and in which the fibres were found degenerated corresponded to the territory supplied by the branches of this artery.

The right coronary artery was found changed in a similar manner, but not to the extent of entirely occluding the vessel. There was moderate oedema and congestion of the lower lobes of both lungs.

The kidneys showed a moderate amount of parenchymatous and interstitial nephritis.

The liver was fatty, infiltrated.

The other organs were normal.

The aorta showed the marks of extensive atheromatous degeneration, but these were beyond the points where the coronary arteries were given off.

The authorities state that rupture of the heart is the cause of one fortieth of all sudden deaths; that in two hundred and two cases of death from pathological changes in the circulatory apparatus thirty-three were from this rupture; that it is much more frequent in males than in females, and immensely more frequent after than before the sixtieth year of life. Of fifty-five cases, forty-three (seventy-eight per cent.) were in the left ventricle, seven (thirteen per cent.) in the right. Of another series of forty-seven cases, thirty-four (seventy-two per cent.) were in the left and eight (seventeen per cent.) in the right ventricle. There is usually but one rent. The mode of death may be by sudden anæmia of the brain, or by interference with the heart's action from clot within the pericardium, or by nervous shock.

Prognosis, in cases where this lesion is suspected, must be eminently unfavorable, though the possibility of cure must be admitted.

Rostan stated, in 1870, his belief that the scars found on many hearts indicate healed rupture! Certainly no such repair can be expected in hearts whose tissues have undergone degeneration.

In commenting on the case the writer said:—

"It seems to me possible that the first slight attacks (two and one half years before death) may have depended on atheromatous deposit beginning in the great vessels and coronary arteries; that the attack in Al-

bany, a fortnight before death,— of severity before unknown, and accompanied with marked rigor,— may have resulted from occlusion of the left coronary artery; that from that time degenerative action was set up in that part of the ventricle no longer nourished by this artery; and that rupture did not occur till just before death."

He quoted Dr. Ellis as saying:—

"I have seen one case in which, after such symptoms as are usually considered those of angina pectoris, the heart was ruptured, but I never saw or heard of one in which the pain and distress were mainly in the neck."

In conclusion, Dr. Winsor said:—

"I cannot see, any more than Dr. Ellis, how the diagnosis, prognosis, or treatment could have been improved on in the light of our present knowledge. The case, however, goes to increase one's distrust of the accuracy of physical examination of the chest."

Dr. Hodgdon, who opened the discussion on the case, said that he considered angina pectoris a symptom or group of symptoms, and not a disease. He agreed substantially with Dr. Winsor's views of the affection. He had a patient in whom, twenty years ago, at her climacteric period, angina pectoris developed in a remarkably well-defined form. The symptoms persisted several years, but disappeared when the menstrual function ceased, leaving her in her usual health. In this case no lesion was discovered in any organ.

Brown-Séquard has said that he has known many cases in which these symptoms have been well defined, and yet the most careful autopsy has revealed no lesion.

Dr. Hodgdon thought it "unscientific to dignify with the name of a disease some symptoms which, between 1763 and 1832, received fifteen different names, implying nearly as many different origins of the symptoms."

Dr. Wight said his experience with this disease was very limited; he relied chiefly upon morphia given subcutaneously. He had seen evil results follow the use of chloroform, and thought it should not be used in this affection.

Dr. W. S. Brown mentioned a case of angina pectoris in a physician, whose wife could always afford him relief during the paroxysms by making a sudden upward pressure of the hand placed just below the heart.

Dr. Warren had attended a lady who, during her menopause, suffered from the affection under consideration. She was very much debilitated, and had a very weak pulse. Amyl nitrite afforded her relief.

In a second case, also a female, the same drug was given without effect, while hypodermic morphia was more successful.

The application of ice-cold compresses always subdued the paroxysms.

In reply to a question concerning treatment, Dr. Winsor quoted Dr. T. Lander Brunton substantially as follows:—

"If the pulse be feeble and associated with pallor, give amyl nitrite. The drug is supposed to cause dilatation of the capillaries and diminished arterial tension. It is not a safe remedy if there be flushed face, weak pulse, and oral pallor."

Dr. Abbott mentioned five cases of angina pectoris, four with autopsies. The first case was a robust and apparently healthy gentleman, about sixty years old,

who, while reading the morning paper, suddenly died. There was no history of previous disease, nor did the most careful autopsy reveal the cause of death. The second case was characterized by great distress in the chest and præcordia. The last three died of rupture of the heart, after a few hours' illness, and in each there was a rent in the anterior wall of the left ventricle. Three of these cases were males, and all but the first one were seventy-five years old.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

OCTOBER 11, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

DEEP ABSCESS OF THE NECK.

DR. CHEEVER read a paper upon this subject, which appears in the first part of the present number of the JOURNAL.

DR. FIFIELD gave a detailed historical account of the subject treated by Dr. Cheever, and spoke of the possibility of the pus passing into the axilla, and of the great liability of mistaking the position of the original seat of the disease by an examination of the external appearances. He also cited cases to show that cellulitis or erysipelas of the neck is very closely allied in its symptoms to deep abscess, and that the two diseases have been confounded by some writers on this subject. Dr. Fifield also remarked that the pus which follows an alveolar abscess rarely perforates the bone, and that the perforation is caused by an otitis or periostitis rather than by pus in the cavity.

DR. J. C. WARREN said that he had had two cases of deep-seated abscess of the neck, one of which was at present under his care in the hospital. At first there was a contraction and board-like hardness of the muscles of the neck, the head being drawn over to one side; there was difficulty in deglutition, and for two days hoarseness; there was also an abundant expectoration of frothy mucus tinged with blood. The morning and evening temperature were above the normal. A poultice was applied, and the patient was kept under observation.

The difficulty in deglutition and the hardness have gradually subsided, but the temperature has remained about the same, and there are enlarged glands in the neck and axilla.

Dr. Warren also spoke of Billroth's interesting paper on this subject, and of the divisions of retropharyngeal abscess made by this author.

DR. WADSWORTH said: There are certain ocular symptoms occasionally seen with abscess of the neck which, though uncommon and not of importance as to diagnosis, may be worth mention. These are caused by irritation or paralysis of the cervical sympathetic. With irritation the pupil on the affected side is dilated, and such dilatation has been observed to pass off as the contents of the abscess were evacuated. With paralysis there is contraction of the pupil, owing to paralysis of the dilator fibres of the iris, and the pupillary contraction is usually associated with some drooping of the upper lid and higher temperature of the same side of head and neck. These paralytic symptoms may persist after the abscess has healed, but in this

event the higher temperature gives place after a time to lower temperature, with absence of sweating in the affected region.

DR. CHEEVER, in reply to Dr. Fiffeld's criticism, that in alveolar abscess the pus does not perforate the bone, said that he thought the pus did break through the bone, and in this opinion he was upheld by Drs. Boardman, Greenough, and Warren, the last two gentlemen citing cases in support of their position.

DR. WADSWORTH showed the bullet from an air-gun which he had removed from the orbit of a boy of about sixteen years. The missile consisted of a metallic part $\frac{3}{4}$ " long, pointed, to which was attached a thick tuft of woolen fibres $\frac{1}{4}$ " long. The gun had been discharged accidentally, only a few feet in front of the boy. The bullet had entered through the cornea, and passed backward completely through the eye into the orbital tissues. It was removed several weeks after the accident, having meanwhile set up purulent inflammation of the eye and orbital tissues, but having caused very little pain.

NERVE STRETCHING.

DR. J. J. PUTNAM reported a case of stretching of the facial nerve for clonic spasm of the facial muscles. The patient was a young man in good health; the affection had lasted almost without interruption for three years.

At the operation, which was performed under ether, with the assistance of Dr. A. T. Cabot, the nerve was raised on a hook, and moderately stretched for several minutes. Complete paralysis was found to have been induced, and the nerve and muscle soon exhibited the changes in electrical reaction characteristic of section or severe traumatism.

Recovery began at the end of two months, and was nearly complete at the end of three months, the twitching not having recurred. Dr. Putnam reviewed the literature of this operation, and spoke of the lack of precise indications for the requisite amount of stretching in a given case.

From experiments which he had made on a dog he thought the nerve might still recover rapidly after a steady pull under a tension of six to seven pounds, but advocated the method of first letting the patient recover sufficiently from the ether to permit of the obtaining of reflex movements (corneal), and using these as a guide.

Recent Literature.

The Microscopist. A Manual of Microscopy and Compendium of the Microscopic Sciences. Fourth edition. By J. H. WYTHE, A. M., M. D., of San Francisco. Philadelphia: Lindsay and Blakiston. 1880.

The object and character of this book are best expressed in the words of the author:—

"It is proposed in this treatise to give such a *résumé* of microscopy as shall enable the student in any department to pursue original investigations with a general knowledge of what has been accomplished by others. To this end a comprehensive view of . . . technology is first given, and then a brief account of the application of the microscope to various branches of science, especially considering the needs of physicians and students of medicine."

The fact that this is the fourth edition is the best evidence of the demand for a work of this sort, answering in the breadth of its range to some of the more comprehensive English books, such as Carpenter, and at the same time adapted more particularly to the requirements of medical men. But its production at the present day is attended by difficulties which the editors of the earlier works of the kind did not encounter. Twenty years ago the field of microscopical science was still small enough for one man to cover, if not with his experience, at least with his judgment. He could know enough of everything connected with a microscope to choose judiciously from the best authorities where he was not authority himself. But the subject has expanded so greatly since the first editions of Carpenter or Griffith and Henfrey were published that the preparation at the present day of a work like this, which is meant to give concisely the essential points of a great variety of subjects, has become almost as difficult as would be rewriting Humboldt's *Cosmos*. The contents of this book range from systematic crystallography through the whole of normal and pathological histology and technique to the classification of ferns and diatoms. To state concisely even the elements of each of these subjects, avoiding superficiality or obscurity, is a task better adapted to twenty writers than one. In fact, it is to be doubted whether the world contains a single man sufficiently familiar with all the matters here treated to make even a judicious selection from the best authorities.

In short, the system on which this book is written is obsolete, and entails certain radical defects, which in the present work are only made more prominent by contrast with many good qualities. Excellent judgment has been shown in the choice of authorities, and the plates are in general well selected from the best English authors, or of those French and German writers familiar in this country through translations. It is to be regretted that so few names beside those of Rindfleisch and Beale are attached to the plates, where they would be valuable as references.

Among the points which might be advantageously revised in a future edition may be mentioned the following:—

Page 70: "Osmic acid, one tenth to one per cent. solution stains the medulla of nerves, etc., black."

A brief mention of the most important reagent for fats.

"Chloride of gold, 0.5 to 0.2 solution. Exposure to light stains nerves, etc., of a violet or red color."

This is rather short shrift for the most valuable reagent known for many tissues. No allusion is made to reduction by formic or acetic acid or lemon juice.

Page 135: *Apropos of bacteria*: "The researches of Mme. Luders render it probable that the germs of fungi develop themselves into these bodies when sown in water containing animal matter, and into yeast in a saccharine solution. The universal diffusion of spores of fungi in the atmosphere readily accounts for their appearance in such fluids, and Pasteur's experiments are quite conclusive."

If there is any point on which Pasteur's experiments are conclusive it is that such "development" as that described by Mme. Luders—whose name, by the way, is not very familiar—never occurs.

Page 218: "The terminations of the gustatory nerves of the tongue are as yet imperfectly known."

No mention is made of Ranvier's demonstration of

these terminations by means of chloride of gold reduced with lemon juice, and yet nothing can be more beautiful than these preparations.

Page 322: Under the head of Examination of Air, the following extraordinary recommendation is made: "Minute living particles of bioplasm, either ordinary pus, or what Dr. Beale calls 'disease germs,' should be diligently sought for under high objectives."

Diligent is certainly not too strong a word, if the search is to be successful.

Other citations might be made. Löstorfer's corpuscles are spoken of with as much consideration as Cohnheim's wandering cells, and under the head of Eosin Staining no mention is made of the reaction on the red corpuscles, which gives the reagent its chief value.

Defects of this sort, arising from imperfect revision, are inevitable in any book written on this plan, where one man attempts to do the work of twenty. Handicapped by an antiquated system, and overwhelmed by the mass of material to be sifted and arranged, the writer works at a great disadvantage, and is in the present instance to be congratulated on having succeeded as well as he has. The book contains a great deal of value, and can be studied with profit in many respects. The illustrations need no higher recommendation than the mention of their sources, and the general appearance of the work is highly creditable to author and publishers.

Atlas of Skin Diseases. By LOUIS A. DUHRING, M. D., etc. Part VII. Philadelphia: J. B. Lippincott & Co. 1880.

This number of Dr. Duhring's celebrated series of dermatological plates comprises representations of eczema (pustulosum); impetigo contagiosa; syphiloderma (papulosum); and lupus vulgaris. It is a work of supererogation to praise this atlas. Every practitioner of medicine in America should by this time be aware that, at great expense of time and even of health, as well as of money, the ex-president of the American Dermatological Association is giving to the world a collection of pictures of cutaneous diseases such as has never been equaled except by the very large and expensive plates of the late Professor Hebra. Dr. Duhring's are comparatively inexpensive, are much easier to handle from the small size of the sheet, while the relatively large proportions of the picture enable the diagnostic features of the morbid processes to be admirably preserved. This fasciculus maintains the supreme standard of the preceding ones, and every physician should possess the whole series. The text is on a par with the plates.

Hygienic and Sanative Measures for Chronic Catarrhal Inflammation of the Nose, Throat, and Ears. Part I. By THOMAS F. RUMBOLD, M. D. St. Louis: Geo. O. Rumbold & Co. 1880.

Dr. Rumbold might be well called a "protectionist" in the case of the catarrhal subject. He covers him with from one to four suits of flannel underwear, and with a cap for the head at night; he coats his skin with oil or vaseline, and says that bathing should be rarely indulged in. Tranquillity of mind is said to be necessary in the treatment of nasal catarrh, inasmuch as the sinuses are situated directly under and in close connec-

tion with the mental portion of the brain. On page 153 use is made of statistics such as is worthy of a political stump speaker. We find there the following statement: "Of the 425 male patients 139 did not use tobacco, colds alone being the cause of their complaint, leaving 286 persons who used tobacco, and who would not have been patients had it not been for the effect of this narcotic" (!). This might be called a bad case of *post hoc propter hoc*, especially in view of the fact that in the same period when these 425 males presented themselves there were 721 females, very few of whom it is likely used the weed. Why not claim that less catarrh was found in men than in women of this period because they used tobacco. Dr. Rumbold, however, explains it by the less amount of clothing which the women wear.

A Manual of the Practice of Surgery. By W. FAIRLEE CLARKE, M. D. Oxon., F. R. C. S. No. 1. Republication by William Wood & Co., New York, 1879. No. 2. Republication by G. P. Putnam's Sons, New York, 1880.

Each volume has its advantages: that of the Messrs. Wood offers additional matter by an American editor upon a number of subjects, including antiseptic surgery, Pott's disease, ulcers, hip disease, club-foot, cancer, stone, transfusion, and anæsthesia for the purpose of bringing them "up to date."

Illustrations of new instruments and apparatus are additions to its value.

The Putnam edition has the merit of small bulk, and can be carried easily in the pocket.

The owner of a manual of surgery may require of it, reasonably, a clear exposition of the practice of surgery at the time of its publication. Should any one possessing one of the volumes noticed desire to refresh his memory on, for instance, the subject of hip-joint dislocation, in order to treat a case intelligently, he will find on reference to either work a prescription for Widow Welch's pill, a useful and popular remedy for chlorosis and irregular menstruation, quotations from Don Quixote, Macbeth, Midsummer Night's Dream, and the writings of Celsus, Wordsworth, and Milton, but with the exception of anæsthesia nothing later in the method of treating his patient than the teachings of Sir Astley Cooper, published fifty-five years ago, with plates showing the application of pulleys according to Dr. Clarke's manual. Having directed the use of *anæsthesia* in this reduction, Dr. Clarke relies upon the relaxed *muscles* to restore the bone to its place, and offers this volume as a "safe and trustworthy guide to the practice of surgery." We must add that the book needs revision.

The Skin in Health and Disease. By L. DUNCAN BULKLEY, M. D. Philadelphia: Presley Blakiston. 1880. Pp. 148.

This little volume is the ninth of a series of twelve American Health Primers edited by Dr. W. W. Keen. Its object is the spread of needful knowledge in regard to the care of the body and the maintenance of health, and to diffuse the facts of preventive medicine rather than to assist in curing disease. It is purely American, our climate, sanitary legislation, and modes of life

varying materially from those of other nations. Dr. Bulkley has done good service in making his *Health Primer* a dictionary in matters pertaining to dermatology, the popular names bestowed by the laity upon diseases of the skin being as a rule as unintelligible to educated physicians as the scientific terms are to the general public. The book contains four chapters: upon (1) anatomy and physiology of the skin; (2) care of the skin in health; (3) diseases of the skin; (4) diet and hygiene in diseases of the skin, — and a particularly valuable and compendious index.

The first chapter is of course, compilation, but is well arranged, simple, and not too scientific. The second chapter treats of baths, soaps, and cosmetics. It is the chapter which should be read by every one, as it gives plain but very important information upon the simplest matters, of which, nevertheless, most people are ludicrously ignorant. While discussing the differences in soaps, however, a little more stress might well have been laid upon the difference in skins. The third chapter contains the bulk of the work, and good general descriptions of the principal maladies of the skin are briefly but judiciously summarized, simple domestic remedies being recommended for light cases easy of diagnosis. The special advantage of this chapter is that its facts are such in accordance with modern science, a circumstance not to be truthfully stated as to all dermatological works, even those of to-day. The drawback to the chapter is that it adds still another "classification of diseases of the skin" to the load under which the medical profession only too justly groans at present. The fourth chapter is like the second, sensible, true, valuable, and needed.

The book, as a whole, may well be recommended to every one, whether a physician or not. It furnishes in compact form, at the price of fifty cents, a trustworthy guide for the prevention of disease and the preservation of health and comeliness.

A Treatise on Common Forms of Functional Nervous Diseases. By L. PUTZEL, M. D., etc. New York: William Wood & Co. 1880. Pp. 249.

It is a glorious and a useful thing to have free speech and a free press, but from time to time one longs for the days of the *imprimatur*, in order that before an author should sit down to add another volume to our groaning shelves he might be compelled to explain to the satisfaction of some discreet person or persons in what respect he expected the community to be the gainer through his labor.

Were such a rule actually in force the present volume would never, we are sure, have been compiled, for it is original neither in form nor matter. It is smoothly and pleasantly written, and contains many illustrative cases of interest, some of which might, perhaps, have formed the basis for good monographs, but for the rest it is an old story, which for the most part has been as well or better told before.

The style is good, and if the matter was given originally as clinical lectures they must have been quite attractive to hear; but why publish them, especially as at best only four subjects are treated of, chorea, epilepsy, neuralgia, and the peripheral paralyses, — the latter, by the way, perhaps as good a type of *non-functional* nervous diseases as could be selected. We abstain from detailed criticisms, as they are of relatively little importance in comparison with the fact that the work

is not sufficiently complete for a standard systematic treatise, and does not contain original matter enough to stand as a collection of monographs.

The Eleventh Report of the State Board of Health of Massachusetts. For the six months ending June 30, 1879.

The Eleventh Report of the State Board of Health of Massachusetts is for the six months ending June 30, 1879, at which time the board was abolished and the new State Board of Health, Lunacy, and Charity was created. The general report consists mainly of the circulars issued by the board during the period covered by the report on matters pertaining to public health, and of a list of the subjects upon which special investigations and reports have been made and published during the ten previous years of the existence of the board. The larger part of this volume consists of a general index to the eleven reports of the board. This index was compiled by Dr. Francis H. Brown, of the Marine Hospital Service, and is very thorough and complete, titles, authors' names, and subjects being all represented. It opens the whole series of reports to the profession, increases their value greatly, and makes them practically useful. Any one having occasion to refer to these reports, — and few physicians do not have — will readily recognize the convenience of the key which the industry of Dr. Brown has put into our hands.

— The *Nashville Journal of Medicine and Surgery* contains a report of a case in which a man, evidently insane, introduced into the rectum a large-sized wine-glass. Forty-eight hours after its introduction an attempt was made to extract it, which was unsuccessful until the whole hand of the operator was introduced into the rectum, when the wine-glass was with difficulty removed. Examination showed that the posterior wall of the rectum was considerably lacerated at the point where the glass had lain, and a few hours later there was a severe hæmorrhage. The motive for the insertion was probably furnished by a diarrhoea of a week's duration, and which proved fatal about a week after the operation. The wine-glass was five inches in circumference at the base and two and a half inches in height.

— The same journal quotes a case of M. Verneuil from the *Journal de Médecine et de Chirurgie Pratique*. An old soldier, tormented by a chronic dysentery, had adopted the habit of blocking up the rectum by a tampon, in the centre of which he placed a piece of wood. Having neglected on one occasion to envelop this foreign body in linen, it ascended into the rectum beyond his reach. Eleven days after the accident the piece of wood was out of reach of the finger in the rectum, but could be felt in the iliac fossa. To reach it laparotomy was performed. The foreign body was found fixed to the upper part of the rectum; it could be made to descend to within five centimetres of the anus. In order to remove it M. Verneuil was compelled to practice linear rectotomy. The operation was done after the method of Lister. Union took place by first intention. The patient is now well after the double operation.

Medical and Surgical Journal.

THURSDAY, OCTOBER 21, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

SUPPLEMENTARY HEALTH REPORT OF THE STATE BOARD OF HEALTH, LUNACY, AND CHARITY.

THIS volume is the successor to the former annual report of the State Board of Health, and is published as a supplement to the first annual report of the newly organized complex Board of Health, Lunacy, and Charity. The papers on special subjects, which make up the bulk of the volume, are preceded by a short general report by the former secretary of the old board, Dr. Folsom. This general report gives a summary of the special reports, and closes with some timely and judicious remarks on typhoid fever, in which a discreet discrimination is made between what we know and what we only suspect as to the origin and modes of propagation of this disease. A few extracts from Dr. Folsom's remarks will bear repetition:—

"At the present time science has not yet gone far enough to say with precision what are all the factors in the production of typhoid fever. That filth, or something originating in filth, is a prominent factor is almost universally conceded."

"Admitting the existence of a specific poison, which may be so entirely eliminated from its filthy surroundings as not to lead to even a suspicion of its filth origin in the human intestine and its discharge with human excrement, the question remains, Is filth alone ever, under any circumstances or by any modifications, capable of producing typhoid fever independently of any matter derived from a previous case of the disease? At the start we must acknowledge that in discussing this problem there is an *x*, an unknown factor, of which we know as little as we know of the so-called 'germ' of any disease,—that is, we do not even yet know certainly that it exists. If we ignore this unknown factor, it must be admitted that the negative evidence enormously preponderates over the positive facts which tend to show that filth, independently of a specific poison, produces typhoid fever."

"Our investigations tend to show that it is essentially a filth disease, in that its origin is always in decomposing organic matter, generally in what is filthiest of filth, human excrement. It does not prevail most, however, in the filthiest towns, nor in the filthiest parts of towns, nor in the most stinking localities, nor necessarily in those years when stinks are most abundant or filth most accumulated; and in the sense of being an index of the degree of filthiness of places, except where all the other conditions are exactly alike, unknown factor and all, it is very far from being a typical filth disease."

We are glad to be assured that there has been a steady decline in the disease for the past ten years in the State of Massachusetts at large, the only exception being an increased prevalence in 1872 and 1873.

It is impossible to judge from the expenses of the health department for six months whether the economy claimed by the advocates of the abolition of the old board will be practically realized, but the figures given indicate that it will not be. In any case, the sum is too paltry, in comparison with the importance of the subject, to be worth consideration. The account by Professor Nichols of the accidental discharge into a brook of sulphuric acid illustrates forcibly the seemingly great amount of contamination which may be easily lost sight of in large volumes of water, and the alleged self-purification of streams. By a fire in chemical works, June 2, 1879, about fifty tons of oil of vitriol, together with salt-cake and other chemicals, found its way into a brook about three feet wide, close by. June 7th, A. M., the acidity was expressed by 1.74 parts of sulphuric acid in 100,000 parts of water, and by 0.37 three miles and a half below, disappearing so that the water reached its natural alkalinity June 15th, becoming slightly acid again June 19th, and remaining alkaline after June 30th. The acid was not observed at any time in Mystic Pond, from seven to eight miles below the works.

The paper by Mrs. Richards, giving the results of her chemical examinations of a number of staple groceries, purchased in various parts of the State, at all classes of retail stores, controverts, as far as it goes, the sensational articles which have appeared in some of the daily papers at different times during the past year.

Messrs. Bowditch's and Clarke's articles on country drainage and sewerage are timely contributions, and the papers of Dr. Abbott and of Drs. Amory and Sabine are illustrations of the necessity for emphasizing the instruction contained in them. It is plain that there is much work for the sanitary engineer even in some of our best governed towns. Professor Wood's careful survey of Fresh Pond and vicinity, and his investigations into the character of the water supply derived therefrom by the city of Cambridge, enforce the demand for an increased vigilance on this vital point in many parts of this thickly settled State; while, on the other hand, Professor Farlow's conclusions as to the properties of the vegetable growths observed upon the water in some of the ponds, streams, and basins which supply cities and towns will relieve the public mind of a source of anxiety which was being a good deal exaggerated.

VITAL STATISTICS OF PROVIDENCE, RHODE ISLAND.

THE twenty-fifth annual report upon the births, marriages, and deaths in the city of Providence for the year ending December 31, 1879, presents the usual evidences of care and thoroughness. This report is, moreover, of unusual value and interest, being the twenty-fifth annual report of the city, all of which have

been submitted by the present accomplished incumbent of the office of city registrar, Dr. Edwin M. Snow. These twenty-five reports give the statistics of 48,022 children born, of 41,432 persons married, and of 33,490 persons who have died in the city of Providence. This is a total of 122,944 names that are contained in the records, with very full and minute particulars relating to each. In regard to the city itself, Dr. Snow says, in his semi-annual review of the mortality for the first six months of the current year, the location is naturally healthy. The surface is quite uneven, and the surface-drainage is excellent; natural water-courses opening into the bay give a free circulation of air into every part of the city. The population is not crowded, but generally the dwelling-houses are single and with unoccupied space about them. There is no under-ground population, and there are no large tenement houses. The population by the census of the present year (1880) is 104,862.

The estimated population upon which the present report is based was 103,000. For the whole period of twenty-five years, 1855-1879, inclusive, the daily average of births was 5.26; the highest daily average for any one month was 5.63 for June, the lowest was 4.88 for January. The proportion of males born to females during twenty-six years was 105.6 to 100.

The aggregate of children of American fathers in the whole city amounts to 48.69, or a little less than one half of the whole number; the children of purely American parentage in 1879 were 40.80 per cent. of all. The average number of children born to each mother during the twenty-five years was 3.45.

There were three women who bore children in Providence in 1879 who were fifty years old: one of whom had borne four children before, one five, and one seven. The number of women of forty years and over who bore children in 1879 was 115; they had borne 821 children, or an average of 7.14 children to each mother. These facts concerning the age of the mother have been recorded since July 1, 1863, a period of sixteen years and six months; in that time there have been 1669 women of forty years and over who have borne children; the number of children borne by them being 12,702, there is an average of 7.61 children to each mother.

During this period, since July 1, 1863, the whole number of children borne by mothers whose age was stated was 34,097. The number of children borne by mothers of each age during this time is as follows:—

Age of mother.	Children.	Age of mother.	Children.	Age of mother.	Children.
14.....	4	27.....	2,041	40.....	789
15.....	19	28.....	2,387	41.....	218
16.....	50	29.....	1,712	42.....	262
17.....	147	30.....	2,753	43.....	147
18.....	376	31.....	1,145	44.....	97
19.....	606	32.....	1,611	45.....	102
20.....	974	33.....	1,342	46.....	27
21.....	1,141	34.....	1,138	47.....	24
22.....	1,655	35.....	1,713	48.....	11
23.....	1,829	36.....	1,019	49.....	3
24.....	2,028	37.....	830	50.....	8
25.....	2,288	38.....	903		
26.....	2,114	39.....	584	All known ages.	34,077

Of these 34,097 children, 19,371 or 56.81 per cent. were borne by mothers less than thirty years old;

13,038 or 38.24 per cent. by mothers between thirty and forty years old; and 1688 or 4.95 per cent. by mothers forty years old, or more.

Proportion of children of plurality births:—

	Twins.	Triplets.
1855-1878.....	1 in 41.3.....	1 in 1587.9.....
1879.....	1 in 54.8.....	
1855-1879.....	1 in 41.8.....	1 in 1,778.6.....

Proportion of plurality births by parentage. The number of births in the twenty-five years, 1855-1879, inclusive, was 47,430. The following is a statement of the number of births of American, foreign, and mixed parentage, and the number and proportion of plurality births in each class:—

	Whole No. births.	Plurality cases.	1 in per cent.
American parents.....	19,028.....	192.....	99.10, or 1.01
Foreign parents.....	22,721.....	335.....	67.82, or 1.03
American and foreign..	5,681.....	56.....	101.45, or .99
Total.....	47,430.....	583.....	81.36, or 1.23

Of the 583 cases of plurality births, the 192 cases of American parentage were 32.93 per cent.; the 335 cases of foreign parentage were 57.46 per cent.; and the 56 cases of mixed parentage were 9.61 per cent.

Touching the distribution of marriages in the different seasons of the year we learn that, taking the aggregate of marriages for twenty-five years, of each 100 about 25 occur in the winter months, December, January, and February; 22 in the spring months; 23 in the summer; and 30 in the autumn. The following figures show the number and percentage of marriages in each quarter of the year for the period of twenty-four years, 1855-1878, inclusive:—

	1855-1878.	
	Marriages.	Per cent.
January-March.....	4,235.....	21.59
April-June.....	4,998.....	25.48
July-September.....	4,603.....	23.46
October-December.....	5,780.....	29.47
Total.....	19,616.....	100.00

The average age of the males married during twenty-four years was 28.56 years; of the females, 24.75 years.

The number and percentage of deaths in each quarter of the year in the aggregate for the twenty-four years were as follows:—

	24 years, 1855-1878.	
	Deaths.	Per cent.
January-March.....	7,519.....	23.90
April-June.....	6,909.....	21.96
July-September.....	9,353.....	29.72
October-December.....	7,683.....	24.42
Total.....	31,464.....	100.00

The average difference in years between the average age of American and foreign decedents for the twenty-four years was 9.62 years in favor of those of American parentage. The number and proportion of decedents under five years of age of foreign parentage was much larger than of American parentage.

The mortality of the city of Providence for the year 1879 was affected by a very severe epidemic of scarlatina, which prevailed especially in the latter part of the year.

Dr. Snow's conclusions in regard to the colored population not being self-sustaining continue the same

as expressed in the last registration report of the State, which he edited, that for 1877.

We have extracted some of the interesting statistics resulting from an experience of twenty-five years with which this report is filled, in the hope that our readers may thereby be induced to refer to the original.

Vital statistics in general would have a greater value if compiled with Dr. Snow's painstaking accuracy and intelligent method.

MEDICAL NOTES.

— The death of Professor Buhl, of Munich, is announced. He made himself widely known through his researches into the pathology of tubercle.

— The Medical College of Virginia announces that its annual lecture course will now continue for nine months. It adopts the graded system also. A similar extension of time is to be adopted, it is said, by the Medical College of the University of Virginia.

— In *Brain*, quoted by the *London Medical Record*, Dr. Clarke has published some very suggestive tables of statistics. He finds it hard to avoid the conclusion that alcoholism in the parents is a predisposing cause of crime and epilepsy. Forty-four per cent. of the epileptic criminals were the children of drunken parents. With regard to the parents, he finds that epilepsy is more frequent in the mother than in the father, and that the percentage for both parents is higher with the women than it is with the men. In drunkenness the reverse holds good. The proportion of epileptic and insane relatives is found to be very much greater with criminals than with ordinary epileptics. It has been asserted by Taquet that "sexual desires show themselves early in the children of drunkards, and are associated with absence of moral sense." The author finds that the convictions for bastardy are three times as numerous among epileptics as among non-epileptics, a fact which strongly bears out his idea that epilepsy owes its origin to hereditary alcoholism. Other tables show that the amount of crime as indicated by the number of convictions is greater among the epileptics than among ordinary criminals.

— A writer in the *Detroit Lancet* claims to have discovered an unfailing sign, by means of which the diagnosis of pregnancy during the earlier months is made a positive certainty. He says: "I refer to the color of the mucous membrane of the vagina and cervix uteri. This I have always found of a purplish-blue, or rather deep violet hue, in pregnant women, and I have depended on this peculiar color in making a diagnosis of pregnancy in the first, second, and third month. I say it has never failed, and it is not produced by any pathological condition; the different colors produced by uterine diseases cannot be mistaken for this pathognomonic violet hue. I have often called the attention of students to this sign, and in dispensary practice it has repeatedly occurred that women under my treatment for uterine disease have not attended for six or eight weeks, and hastily plac-

ing them on a table, without inquiring about their last menstruation, I introduced a speculum, and was on the point of introducing a probe or making an application to the uterus, when, behold, there was the characteristic color. I desisted from further interference, and in every case which I could keep under observation the women were afterwards delivered at full term, or had a miscarriage."

— Mr. Spencer Wells has performed ovariectomy one thousand times, with seven hundred and sixty-eight recoveries and two hundred and thirty deaths.

— *Boston Medical and Surgical Journal*.

And what became of the others? — *Exchange*.

The other two may have been left in the ink-stand or have fallen back into the font. But appearances indicate that they neither died nor recovered. For their probable fate we refer our inquisitive friend to the first clause of the fifth verse of the eleventh chapter of Paul's Epistle to the Hebrews.

— Drs. McIntire and Bauer recently used eucalyptol as spray in a modified form of Lister's dressing during an operation for mammary cancer, with the very best results. According to the *St. Louis Clinical Record*, this substance may prove to be the antiseptic of the future.

NEW YORK.

— There was no preliminary session at the Bellevue Hospital Medical College, and the lengthened winter session commenced on Wednesday, September 15th. An innovation was introduced, in the omission of the usual formal introductory address.

— The opening exercises of the seventy-fourth winter session at the College of Physicians and Surgeons took place on Friday evening, October 1st, and the introductory address was by Prof. Edward C. Seguin, M. D. His subject was The Cultivation of Specialties in Medicine.

— The introductory lecture of the course at the medical department of the University of the City of New York was delivered on Tuesday evening, September 28th, on The Importance of Clinical Study, and its Relation to Medical Progress. He showed that only when this had been the basis of investigation had there been any real progress in medical science, and that the new and more perfect modes of clinical study, by which discoveries had been made which had changed and entirely revolutionized this department, had now given to it a degree of certainty and exactness which at one time seemed altogether impossible of attainment.

— According to a paragraph in *La France médicale*, a woman, whose name and address are given, was several months pregnant when she was seized with colicky pains. Attributing them to ordinary causes, she went to her vineyard, and was profoundly astonished to discover presently that she had been confined. Dr. Watering, of Maregnac, was called to her, and found that she had given birth to eight children, perfectly formed. They were enclosed in a sac, and had apparently perished from mutual pressure during their growth. The mother did well. — *Michigan Medical News*.

—The Cincinnati *Medical News* allows itself to publish a letter from a student, whose object is a wholesale criticism upon the teachers of the medical school of that city. "Ancient bumpkin," "juvenile milksop," etc., are some of the elegant expressions used by this young gentleman in application to certain of the lecturers. The matter and its publication require no comment.

EDUCATIONAL NOTES.

HOSPITAL INTERNES AND EXTERNES IN PARIS.

The *internes* and *externes* of the hospital are nominated by *concours* for four years, and receive 500 francs per annum for the first two years, 600 francs the third year, and 700 francs the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 francs yearly in lieu of lodging.

The *interne* is the most direct assistant of the hospital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn, to attend to urgent accidents and cases of illness.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honor. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honor. The successful candidate for the gold medal is entitled to two additional years of *internat*.

Those candidates who are placed in the first list at the *concours*, but do not succeed in getting appointments, are termed provisional *internes*, and fill the places of those who are absent. They have, however, to compete again at the end of the year, if they desire to receive appointments.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases. The *externat*, well employed, is a safe road to the *internat*. The *externes* at the central hospitals are not paid; at those more distant from the centre of the city they receive 800 francs yearly.

The *concours* for the *externat* generally commences early in October and continues until the end of December. Candidates must not be under eighteen nor above twenty-five years of age. They must produce: (1) a register of birth; (2) a certificate of vaccination; (3) a certificate of good conduct signed by the mayor of the commune in which the candidate is domiciled; (4) a certificate of at least one inscription in the faculty of medicine. The examination consists in: (1) an oral description of some subject in descriptive anatomy; (2) a similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. Twenty candidates are examined on each day. The maximum number of marks that can be gained by a candidate is twenty for each examination. The examination is conducted by four physicians and three surgeons of the central bureau, generally from those most recently appointed.

The *concours* for the *internat* takes place nearly at the same time as that for the *externat*. Candidates must not be more than twenty-eight years old, and must produce certificate of having performed the du-

ties of *externes* at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians and surgeons and the directors of the hospitals in which they have performed the duties of *externes*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. The question is drawn by lot from three chosen by the jury of examiners. The candidates read their competitions before the examiners, and receive a number of marks, generally varying from twenty to twenty-eight (the maximum being thirty). After this, the candidates are classified, and a certain number only (about three for each vacant place) are admitted to the second examination. In this, a question in anatomy and pathology is proposed; ten minutes are allowed for consideration, and ten minutes for the oral answer. The maximum number of marks for this examination is twenty. The examiners are selected in the same way as for the *externat*.

At the end of the *concours*, the candidates are classified according to the number of marks; and the thirty-five or forty first on the list are nominated *internes*.

REGULATIONS FOR THE GERMAN STAATS-EXAMEN.

The examination for the license to practice as a physician, surgeon, and accoucheur in any part of the German Empire may be passed either before the medical examination commission at Berlin, or before a medical examination committee at any German university.

The examinations commence every year in November, and are not continued beyond the middle of July in the following year.

The examination is divided into five parts, namely: (1.) Anatomical, physiological, and pathological. (2.) Surgical and ophthalmic. (3.) Medical. (4.) Gynecological. (5.) *Viva voce*. All candidates, without exception, must pass these examinations in the above order, and no regard is paid as to what branch of the profession the candidate will devote himself.

In the first portion, the candidate has to write essays on the various subjects, and also to demonstrate on the dead body, and reply to questions put to him.

In the second portion, the candidate has to undergo a clinical and a technical test. The clinical part is conducted in the surgical department of a large hospital, or in the clinic of a university, and usually lasts from seven to nine days, the candidate during this period taking charge of several patients, under the supervision of one of the examiners. During this period, also, the candidate may be required to satisfy the examiners that he can operate on the dead body, and is always required to give his diagnosis in an ophthalmic case.

The third portion of the examination is devoted to medicine, and is purely clinical. The candidate is examined in a hospital or in a clinic of a university, and is required to write prescriptions, and to give his opinion as to the doses of certain drugs given in certain cases of sickness.

The fourth portion consists in an examination conducted in the Charity Lying-In Hospital at Berlin, or in the Lying-In Hospital of a university. The candidate has to examine cases in the presence of an examiner, and to give the diagnosis, prognosis, and treatment. He is also required to attend a case of labor in the presence of an examiner, and to write down his opinion afterwards, stating the exact presentation, etc. He is also required to undertake the treatment of cases during seven days, under the superintendence of an examiner.

The fifth portion, the *viva voce* examination, is conducted publicly, under the superintendence of the president of the examination commission, by three commissioners. To this examination only those candidates will be admitted who have satisfac-

torily passed the previous portions. This examination includes general and special pathology, therapeutics, surgery, midwifery, pharmacy, and hygiene. Any candidate who fails to pass these five portions of the examination twice will not be readmitted for fresh examination.

UNIVERSITY OF ZURICH.

The following are the regulations for the degree of doctor of medicine:—

(1.) In order to obtain the degree of doctor of medicine, the candidate must send to the dean a written memorial, accompanied by (a) evidence of attendance on lectures of physics, chemistry, botany, zoölogy, and medical subjects; (b) a dissertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

(2.) The dissertation is delivered by the dean for examination to the teacher of the subject of which it treats, or to the member of the faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance; in this case his name appears on the title when it is printed. If the first opinion be doubtful or unfavorable the thesis must be circulated among all the members of the faculty, and is only accepted if two thirds of them give their written votes in its favor.

(3.) When the dissertation is approved, the candidate is admitted to examination for the degree. The first part is written, and the candidate has to answer two questions drawn by lot: one on anatomy and physiology, the other on pathology and therapeutics, surgery, or midwifery. The answers are circulated among the members of the faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the second (oral) examination. The oral examination comprises the above-named subjects, and also general anatomy, pathological anatomy, materia medica, and ophthalmic medicine. The votes of two thirds of the members of the faculty present are necessary for the passing of this examination.

(4.) After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in duplicate to the candidate; all other ceremonies are dispensed with.

(5.) The fee consists of three hundred and fifty francs (fourteen pounds), and fifteen francs to the bedell; it is paid before the oral examination (if this be remitted before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of one hundred francs is remitted to candidates who already possess a recognized diploma; and, in such cases, the faculty may, by a majority of two thirds, agree to omit the oral examination.

(6.) The faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The medical faculty consists of the following professors, with several docents. Ordinary professors: H. Meyer, human anatomy; H. Frey, comparative anatomy, zoölogy, histology, embryology; E. Rose, surgery and clinical surgery; L. Hermann, physiology; K. J. Eberth, morbid anatomy; G. Huguenin, practice and clinics of medicine; F. Horner, ophthalmology; O. Wyss, diseases of children; E. Frankenhäuser, obstetrics and gynaecology; A. Forel, mental diseases. Extraordinary professor, H. Spöndly, obstetric

medicine. Lectures are given in the philosophical faculty by ordinary professors: V. Merz, chemistry; W. Weith, chemistry.

THE GENERAL HOSPITAL IN VIENNA.

The General Hospital (*Allgemeine Krankenhaus*) is capable of accommodating about 3000 patients. There are two medical clinics, under Professors Duchek and von Bamberger; two surgical clinics, under Professors von Dumreicher and Billroth; a clinic for Diseases of the Eye, under Professors von Arlt and Stellwag von Carion; and three clinics for Obstetrics, — two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Späth. There are also special clinics for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrötter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Professor Meynert; and for Otology, under Professor Grüber. A considerable portion of the school is situated within the hospital; thus there are at the General Hospital the Pathological Museum and post-mortem room, under the direction of Professor Heschl; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Professor Langer; the Physiological Institute, where the practical physiology is carried on under Professor Brücke; the Materia Medica Museum and the Medical Library are outside the hospital, in the Alsergrund.

HOSPITALS AND MEDICAL PERIODICALS IN JAPAN.

Hospitals. Before the coming of the Western war-vessels to Japan there were no hospitals here. If a patient desired more than ordinary attention from his physician he entered the home of the Chinese doctor, and became one of the family. The nobles and the higher officials had their household doctor. Little or no provision was made for the sick poor. In old Japan humanity was abundant and life was held cheap. The first hospital in Japan was established by the Shogunate in 1861, at Nagasaki, and placed in the charge of Matsumoto, then a student of Dutch medicine, but who has since become inspector-general of the army medical department. The hospitals were and are even now in some degree institutions in which only the paying classes can obtain attention and treatment. Since the Restoration of 1868, hospitals have been established by the Mikado's government in various cities and prefectures of the empire. The staff in these institutions include the best educated (in modern medicine) and most experienced physicians of their several sections. To these institutions come the sick of the higher classes, the official class, the paying classes, and the cases with which the ordinary practitioners cannot cope. At all the hospitals are a large number of young men pursuing their studies, and who also act as drug-clerks, dressers, and clinical clerks, until they are able to secure a proper certificate. Connected with the in-department is an extended out-patient department, where all are examined and prescribed for, but each one pays a small fee for the medicines; also a vaccination department and one for the periodic inspection of

the public women. (The "social evil" is not only admitted and recognized here, but it is regulated in a very efficient manner. Many features of the system here pursued are worthy the attention of the West.) In 1877 there was sixty-four public, seven general government, thirty-five private, and five lock hospitals. Since then there have been established new hospitals in several of the inland ken, two large ones at Tokio, and one each at Kanagawa, Awomori, Sendai, and Fukushima, to my personal knowledge.

There are now six medical periodicals issued in Japanese. They are largely made up of translations from the American and European medical press, for as yet little original work has been done here. The two having the ablest editors and the largest circulation are the *I-ji-Chimbun* (weekly) and the *I-ji-Shinshi* (monthly), issued at Tokio. The following are a few of the topics treated in a recent issue of the *I-ji-Shinshi*: mercurial baths; injurious effects of wine on the general health; causes of intermittent fever; a case of difficult parturition; uses of jaborandi; government physicians *versus* private practice, etc.

Miscellany.

THE OPERATION OF OPTICO-CILIARY NEUROTOMY AT THE MILAN CONGRESS.

BY HASKET DERBY, M. D.

AT one of the January meetings of the Medical Improvement Society¹ of Boston, a discussion took place with reference to the new operation of neurotomy, or division of the optic and ciliary nerves, as a substitute for enucleation of the eyeball in cases of threatened sympathetic ophthalmia. I alluded on that occasion, in the course of my remarks, to the possibility of reunion of the several nerve fibres, and cited certain cases in which the subsequent symptoms appeared to indicate this occurrence. And I claimed that the value of the new operation would be greatly diminished if this accident proved a frequent one.

The whole subject came up for discussion at the International Congress, held at Milan in the early part of September of the present year. No report of its proceedings has yet appeared, and I have therefore thought that a brief *résumé* of the notes I made at the time might be of interest.

Dr. Meyer brought the subject of optico-ciliary neurotomy forward, and described his method of performing the operation. He was in the habit of dividing and detaching all the conjunctiva in the immediate vicinity of the cornea, also of cutting both oblique muscles. He used ordinary sutures in preference to catgut, not finding the effect of the latter sufficiently durable. When symptoms of sympathetic ophthalmia were actually present he always performed enucleation.

Dr. Poncet had made examinations of dogs on whom neurotomy had been performed. He had found complete regeneration of the ciliary nerves at the end of two months. Drawings were exhibited, and the regeneration of the myeline demonstrated. At the end of two months he found, moreover, that regeneration of the optic nerve was taking place, myeline being formed.

It being claimed by a member of the congress that the removal of a piece of the nerve had, in his experi-

ence, prevented the reestablishment of corneal sensitiveness, which had returned after simple division of the nerve, Dr. Lainati reported a case in which he had cut off a piece of the optic nerve two centimetres in length. In thirteen days corneal sensitiveness was again present.

Dr. Liebrecht had seen all the symptoms return ten weeks after the operation of neurotomy. In one case he removed a piece of the nerve. Four months later there was no disturbance. In the performance of the operation he had been much troubled by the occurrence of hæmorrhage.

Dr. Dor had had a case where the cornea remained insensible for a year after the division of the optic nerve, and then began to regain its sensitiveness. The activity of the pupil also returned. In his opinion, neurotomy, or rather neurectomy (the excision of a portion of the nerve), would still remain applicable to a limited number of cases, and need not, therefore, be wholly abandoned. Enucleation, however, must invariably be performed where sympathetic ophthalmia is to be feared.

This statement was received with marked and general demonstrations of assent.

Dr. Boucheron admitted the possibility of regeneration of the ciliary nerves.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 2, 1880, TO OCTOBER 15, 1880.

HAPPERSETT, J. C. G., major and surgeon. Assigned to duty as post surgeon at Fort Brown, Texas, to enable Assistant Surgeon F. Meacham to comply with S. O. 190, C. S., A. G. O., in his case. S. O. 19, Department of Texas, September 29, 1880.

DICKSON, J. M., captain and assistant surgeon. Assigned to duty as post surgeon at Vancouver Barracks, W. T. S. O. 171, Department of the Columbia, September 24, 1880.

HEIZMANN, CHARLES L., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply at division headquarters for an extension of one month, and to the adjutant general of the army for a further extension of two months. S. O. 170, Department of the Columbia, September 23, 1880. Leave of absence extended one month. S. O. 143, Division of the Pacific and Department of California, September 28, 1880.

BIART, V., first lieutenant and assistant surgeon. So much of S. O. 205, September 24, 1880, from A. G. O., as relates to him is suspended until May 1, 1881. S. O. 209, A. G. O., September 30, 1880.

GRAY, WILLIAM W., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Dickson to report to commanding officer, Fort Canby, W. T., for duty as post surgeon. S. O. 171, C. S., Department of the Columbia.

GOROAS, W. C., first lieutenant and assistant surgeon. Assigned to duty as post surgeon at Fort McIntosh, Texas, to enable Assistant Surgeon J. H. T. King to comply with S. O. 190, C. S., A. G. O., in his case. S. O. 199, C. S., Department of Texas.

MUNN, C. E., captain and assistant surgeon. To accompany the battalion of the fourth cavalry, which is relieved from duty with the Ute expedition, to Fort Garland, Col., and then proceed to and take post at Fort Hays, Kans. S. O. 210, Department of the Missouri, September 21, 1880.

BIART, V., first lieutenant and assistant surgeon. Relieved from duty in the Department of the Missouri, and to report in person, at the expiration of his present sick leave of absence, to the commanding general, Department of Dakota, for assignment to duty. S. O. 205, C. S., A. G. O.

BREWER, J. W., captain and assistant surgeon. Assigned to duty at McPherson Barracks, Atlanta, Ga. S. O. 117, Department of the South, October 7, 1880.

MATTHEWS, W., captain and assistant surgeon. Having reported at these headquarters, is assigned to duty at the cantonment on the Uncompahgre, Colo. S. O. 223, Department of the Missouri, October 8, 1880.

¹ Medical and Surgical Journal, vol. cii. No. 4.

LIPPINCOTT, H., captain and assistant surgeon. Granted leave of absence for six months. S. O. 218, A. G. O., October 12, 1880.

POPE, B. F., captain and assistant surgeon. Having reported at these head-quarters, is assigned to duty at Fort Sully, D. T. S. O. 122, Department of Dakota, October 9, 1880.

CRONKHITE, H., captain and assistant surgeon. Assigned to duty as post surgeon at Camp Sheridan, Nebr. S. O. 94, Department of the Platte, October 8, 1880.

WILSON, WILLIAM J., captain and assistant surgeon. Having

reported at these head-quarters, is assigned to duty at Fort Meade, D. T. S. O. 121, Department of Dakota, October 6, 1880.

WERNER, D., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Warren, Mass. S. O. 181, Department of the East, October 8, 1880.

SEWIG, B. G., captain and assistant surgeon. Fort Fred Steele, Wyo. T. Granted leave of absence for one month. S. O. 95, Department of the Platte, October 9, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 2, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Diarrhoeal Diseases.	Lung Diseases.	Typhoid Fever.
New York.....	1,209,561	529	227	28.54	8.88	11.15	11.72	2.08
Philadelphia.....	901,380	273	105	12.45	2.56	2.30	2.56	2.93
Brooklyn.....	564,400	225	109	35.11	20.89	7.56	9.70	.44
Chicago.....	503,298	159	78	41.51	20.75	6.29	6.29	4.40
St. Louis.....	—	130	51	24.62	13.08	4.62	2.31	4.62
Baltimore.....	393,796	183	50	28.57	8.27	6.02	8.27	6.77
Boston.....	368,938	177	74	26.55	11.30	12.43	4.52	1.13
Cincinnati.....	280,000	—	—	—	—	—	—	—
New Orleans.....	210,000	103	34	29.13	.97	7.77	3.88	.97
District of Columbia.....	180,000	96	30	22.92	7.29	7.29	5.21	1.04
Buffalo.....	—	55	25	23.64	9.09	5.45	5.45	5.45
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	46	20	43.48	17.39	6.52	4.35	4.35
Milwaukee.....	127,000	51	28	19.61	9.81	—	5.88	—
Providence.....	104,862	35	13	28.57	8.57	5.71	5.71	5.71
New Haven.....	63,000	9	3	55.56	33.33	—	11.11	11.11
Charleston.....	57,000	27	12	11.11	—	7.41	3.70	3.70
Nashville.....	43,543	16	3	18.75	—	12.50	—	6.25
Lowell.....	59,340	27	16	51.85	—	37.04	3.70	3.70
Worcester.....	58,040	27	13	44.44	11.11	18.52	11.11	7.41
Cambridge.....	52,860	18	8	16.67	5.56	11.11	27.78	—
Fall River.....	48,626	14	9	14.29	—	—	—	—
Lawrence.....	39,068	20	11	15.00	—	15.00	15.00	—
Lynn.....	38,376	15	4	26.67	6.67	13.33	—	6.67
Springfield.....	33,536	12	4	—	—	—	—	—
Salem.....	27,347	15	6	33.33	20.00	6.67	—	6.67
New Bedford.....	27,268	14	6	28.57	—	21.43	7.14	—
Somerville.....	24,964	7	2	14.29	—	—	—	—
Holyoke.....	21,961	7	2	42.86	—	—	—	28.57
Chelsea.....	21,780	8	2	37.50	37.50	—	—	—
Taunton.....	21,145	10	3	10.00	—	10.00	—	—
Gloucester.....	19,288	5	3	20.00	20.00	—	—	—
Haverhill.....	18,478	10	3	10.00	—	10.00	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	3	2	37.33	—	—	—	—
Fitchburg.....	12,270	5	0	20.00	20.00	—	—	—
Twenty Massachusetts towns.....	156,515	41	13	24.39	2.44	14.63	—	4.88

Deaths reported, 2322; 971 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 632, consumption 333, diphtheria and croup 212, diarrhoeal diseases 189, lung diseases 157, malarial fevers 82, typhoid fever 65, scarlet fever 44, whooping-cough 21, cerebro-spinal meningitis six, erysipelas six, small-pox five, measles two. From malarial fevers, New Orleans 19, St. Louis 17, New York 13, Brooklyn 10, District of Columbia seven, Philadelphia and Milwaukee four, Chicago and Baltimore three, Boston and New Haven one. From scarlet fever, Chicago 11, New York 10, Brooklyn, Baltimore, and Pittsburgh four, Providence three, Fall River two, Philadelphia, Milwaukee, Lowell, New Bedford, Somerville, and Newburyport one. From whooping-cough, New York eight, Baltimore three, Philadelphia, Boston, and Buffalo two, St. Louis, Pittsburgh, Lowell, and Holyoke one. From cerebro-spinal meningitis, New York and Pittsburgh two, Philadelphia and Worcester one. From erysipelas, Chicago two, New York, St. Louis, New Orleans, and Lowell one. From small-pox, Philadelphia five. From measles, Worcester and Nantucket one.

Eighty-eight cases of diphtheria, 24 of scarlet fever, four of typhoid fever, one of small-pox, one of measles, and one of whooping-cough were reported in Brooklyn; small-pox, two in

Chicago; diphtheria 38, scarlet fever eight, in Boston; scarlet fever 29, diphtheria 11, in Milwaukee; diphtheria 11, scarlet fever five, typhoid fever three, measles one, diarrhoeal diseases one, in Providence; scarlet fever 14, diphtheria four, in New Bedford.

In 38 cities and towns of Massachusetts, with a population of 1,058,270 (population of the State 1,763,812), the total death-rate for the week was 21.49 against 21.51 and 22.05 for the previous two weeks.

Total deaths, deaths under five years, and deaths from diarrhoeal diseases all diminished.

For the week ending September 11th, in 150 German cities and towns, with an estimated population of 7,725,065, the death-rate was 30.7. Deaths reported, 5366; 2876 under five: pulmonary consumption 425, acute diseases of the respiratory organs 189, diphtheria and croup 112, typhoid fever 82, scarlet fever 78, whooping-cough 46, measles and whooping-cough 23, puerperal fever 16, small-pox (Königsberg three, Königshütte two) five, typhus fever (Dortmund) two; cholera (Reutlingen, Gotha) two. The death-rates ranged from 14.2 in Erfurt to 46.6 in Götting; Königsberg 34.3; Breslau 31.3; Munich 29.6; Dresden 32.3; Berlin 33.6; Leipzig 28.6; Hamburg 28.4; Hanover 26; Bremen 27.2; Cologne 39.3; Frankfurt 16; Strasburg 26.6.

For the week ending September 18th, in the 20 English cities,

with an estimated population of 7,499,468, the death-rate was 25. Deaths reported, 3591: diarrhoea 818, acute diseases of the respiratory organs 153, scarlet fever 94, whooping-cough 59, fever 58, measles 19, diphtheria 18, small-pox (London) three. The death-rates ranged from 17 in Plymouth to 37 in Leicester; London 20; Bristol 20; Manchester 27; Birmingham 27; Sheffield 28; Leeds 30; Liverpool 34. In Edinburgh 19; Glasgow 21; Dublin 39.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 36 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 13, diphtheria and croup seven, scarlet fever five, measles three. The death-rates of the principal cities were: Geneva 14; Zurich 28.5; Basle 18.4; Berne 20.9.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	3 P. M.	9 P. M.	Mean.	7 A. M.	3 P. M.	9 P. M.	7 A. M.	3 P. M.	9 P. M.	7 A. M.	3 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Sept. 26	30.135	65	77	53	76	56	83	72	SW	S	S	3	11	8	C	F	C	—	—
" 27	29.923	70	79	60	94	65	90	83	S	S	S	4	17	9	GG	FF	RR	—	—
" 28	29.672	65	79	55	94	73	82	83	SE	S	W	5	18	14	GG	FF	FF	—	.07
" 29	29.850	61	74	49	81	33	59	58	SW	SW	W	9	11	9	CC	FF	CC	—	—
" 30	30.106	54	68	45	70	30	41	47	W	W	W	5	14	20	CC	FF	CC	—	—
Oct. 1	30.352	50	65	40	66	24	45	45	W	SE	S	10	6	2	CC	FF	CC	—	—
" 2	30.323	53	66	44	63	43	61	56	SW	E	SE	4	14	8	C	F	F	—	—
Week.	30.052	60	79	40				63	SW	S	W							3.25	.07

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 9, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Typhoid Fever.
New York.....	1,209,561	588	237	25.51	11.05	11.90	9.01	1.02
Philadelphia.....	901,380	268	79	—	3.36	4.10	—	4.85
Brooklyn.....	564,400	277	126	32.85	19.50	7.94	8.30	1.08
Chicago.....	503,298	175	80	35.43	20.57	6.29	9.14	2.86
St. Louis.....	—	118	37	20.34	4.24	5.08	6.78	2.54
Baltimore.....	393,796	135	59	33.33	8.89	5.98	5.19	2.21
Boston.....	363,938	158	51	22.80	8.23	7.60	11.40	1.90
Cincinnati.....	280,000	91	30	17.58	1.10	8.79	7.69	6.60
New Orleans.....	210,000	107	32	14.95	1.87	4.67	2.80	—
District of Columbia.....	180,000	94	46	31.91	14.89	7.45	3.19	4.26
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	63	25	44.44	15.89	1.59	4.77	7.84
Buffalo.....	155,159	46	13	41.30	13.04	4.35	6.52	4.35
Milwaukee.....	127,000	47	26	27.66	6.38	2.13	8.51	2.13
Providence.....	104,862	29	9	27.59	3.45	3.45	10.34	6.89
New Haven.....	63,000	18	4	11.11	5.56	11.11	—	—
Charleston.....	57,000	36	15	5.56	2.78	5.56	2.78	—
Nashville.....	43,543	18	7	27.78	5.56	—	22.22	—
Lowell.....	59,340	23	8	26.10	—	17.39	4.35	13.05
Worcester.....	58,040	22	8	9.09	—	13.64	9.09	—
Cambridge.....	52,860	22	7	22.73	4.54	4.54	13.64	—
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	8	4	25.00	12.50	—	—	12.50
Springfield.....	38,536	10	1	20.00	10.00	—	—	10.00
Salem.....	27,347	16	8	25.00	6.25	6.25	12.50	6.25
New Bedford.....	27,268	12	6	50.00	8.33	8.33	25.00	8.33
Somerville.....	24,964	13	4	23.08	7.69	7.69	15.38	—
Holyoke.....	21,961	11	7	27.27	—	9.09	18.18	—
Chelsea.....	21,780	16	8	25.00	12.50	6.25	6.25	—
Taunton.....	21,145	6	2	33.33	—	16.67	16.67	16.67
Gloucester.....	19,280	11	3	9.09	—	27.27	—	—
Haverhill.....	18,478	11	5	45.45	36.36	—	9.09	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	7	2	28.7	14.29	—	14.29	—
Fitchburg.....	12,270	6	6	16.67	—	—	—	—
Nineteen Massachusetts towns....	142,732	57	15	29.82	7.02	5.26	15.79	7.02

Deaths reported 2519; 969 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria, and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 653, consumption 385, diphtheria and croup 251, lung diseases 189, diarrhoeal diseases 184, typhoid fever 68, malarial fevers 52, scarlet fever 45, whooping-cough 20, cerebro-spinal meningitis 14, small-pox 10, measles four, erysipelas four, yellow fever one. From *malarial fevers*, New York 11, New Orleans 10, Brooklyn, St. Louis, and District of Columbia seven, Baltimore and Buffalo four, Chicago and New Haven one. From *scarlet fever*, Baltimore 12, Pittsburgh nine, New York and Philadelphia five, Chicago, Buffalo, and Milwaukee three, Cincinnati, District of Columbia, Providence, Lowell, and New Bedford one. From *whooping-cough*, Baltimore six, New York five, Philadelphia and Brooklyn three, Boston two, Fitchburg one. From *cerebro-spinal meningitis*, New York three, Philadelphia two, St. Louis, Baltimore, Cincinnati, Buffalo, Milwaukee, Providence, Lowell, Holyoke, and Chelsea one. From *small-pox*, Philadelphia nine, Chicago one. From *measles*, New York, Brooklyn, Pittsburgh, and Gloucester one. From *erysipelas*, New York, District of Columbia, Milwaukee, and Cambridge one. From *yellow fever*, New Orleans one.

Eighty-five cases of diphtheria, 14 of scarlet fever, seven of typhoid fever, three of measles, one of whooping-cough, and one of small-pox were reported in Brooklyn; diphtheria 25, scarlet fever 15, small-pox one (convalescent when reported), in Boston; scarlet fever 19, diphtheria 16, in Milwaukee; diphtheria 14, typhoid fever five, scarlet fever two, whooping-cough two, in Providence; scarlet fever nine, in New Bedford.

In 35 cities and towns of Massachusetts, with a population of 956,793 (population of the State 1,783,812), the total death-rate for the week was 22.35, against 21.49 and 21.51 for the previous two weeks.

Total deaths increased; deaths under five years and deaths from diarrhoeal diseases about the same as for the previous week.

For the week ending September 18th, in 149 German cities and towns, with an estimated population of 7,713,572, the death-rate was 27.9. Deaths reported 5327; 2574 under five: pulmonary consumption 399, acute diseases of the respiratory organs 164, diphtheria and croup 131, scarlet fever 96, typhoid fever 72, whooping-cough 58, puerperal fever 18, measles and röteln 17, cholera (Reutlingen, Aachen) two, small-pox (Königsberg) one. The death-rates ranged from 12.7 in Darmstadt to 52.3 in Aachen; Königsberg 28.9; Breslau 26.2; Munich 30; Dresden 25; Berlin 33.2; Leipzig 22.4; Hamburg 24.7; Hanover 26.4; Bremen 20.9; Cologne 28.3; Frankfurt 20.8; Strasburg 22.1.

For the week ending September 25th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 24.1. Deaths reported 3466: diarrhoea 611, acute diseases of the respiratory organs 174, scarlet fever 119, fever 72, whooping-cough 55, diphtheria 22, measles 18, small-pox (London) five. The death-rates ranged from 21 in London to 38 in Norwich; Birmingham 22; Bristol 24; Manchester 26; Leeds 27; Liverpool 33. In Edinburgh 21; Glasgow 18; Dublin 38.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 51 deaths from diarrhoeal diseases, diphtheria and croup 10, acute diseases of the respiratory organs eight, typhoid fever six, whooping cough three, puerperal fever two. The death-rates of the principal cities were: Geneva 17.1; Zurich 27; Basle 27.6; Berne 22.1.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
		Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean. .	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																				
Oct. 3	30.207	57	70	47	73	67	75	72	SW	E	S	2	6	5	C	C	C	.20	—	
" 4	29.984	65	74	54	94	59	79	77	S	SW	SW	8	17	14	O	O	O	5.30	—	
" 5	29.976	52	65	51	79	80	80	80	W	W	SW	4	5	8	R	O	F	—	—	
" 6	29.880	55	70	46	100	31	35	55	W	W	W	10	14	7	G	C	C	—	—	
" 7	30.138	50	61	43	62	38	43	48	W	NW	NW	8	13	12	C	F	C	—	—	
" 8	30.326	49	61	38	65	56	65	62	W	E	SW	7	8	6	C	C	C	—	—	
" 9	30.302	58	72	43	77	36	70	61	W	S	SW	5	7	9	C	C	C	—	—	
Week.	30.116	56	74	38					W	W	SW							5.50	.15	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

BOOKS AND PAMPHLETS RECEIVED. — A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, M. D. Sixth American Edition, revised and improved. Philadelphia: Henry C. Lea's Son & Co. 1880. (From A. Williams & Co.)

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General, October 1, 1880. Washington: Surgeon-General's Office.

A Treatise on the Diseases of the Eye. By J. Soelberg Wells, F. R. C. S. Third American from the third English Edition, with copious Additions. By Charles Stedman Bull, M. D. Philadelphia: Henry C. Lea's Sons & Co. 1880.

The Indications for Treatment in Fractures of the Elbow. By Louis S. Pilcher, M. D. (Reprint.)

National Association for the Protection of the Insane and the Prevention of Insanity. Boston. 1880.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Oesophagus, Nasal Cavities, and Neck. By Morell Mackenzie, M. D. Vol. I. Diseases of the Pharynx, Larynx, and Trachea. Philadelphia: Presley Blakiston. 1880.

A Practical Treatise on Nasal Catarrh. By Beverley Robinson, M. D. New York: William Wood & Co. 1880.

Medical Hints on the Production and Management of the Singing Voice. By Lenox Browne, F. R. C. S. Eighth Edition, revised, enlarged, and illustrated. New York: M. S. Holbrook & Co.

The Rise of American Dermatology. Being the President's Address before the Third Annual Meeting of the American Dermatological Association at New York, August 26, 1879. By Louis A. Duhring, M. D. (Extracted from the Transactions of the Association.)

Diseases of the Pharynx, Larynx, and Trachea. By Morell Mackenzie, M. D. New York: William Wood & Co. (Wood's Library of Standard Medical Authors.)

On Slight Ailments: Their Nature and Treatment. By Lionel S. Beale, F. R. S. Philadelphia: Presley Blakiston. 1880.

A Manual of Minor Surgery and Bandaging. By Christopher Heath, F. R. C. S. Sixth Edition, revised and enlarged. Philadelphia: Presley Blakiston & Co. 1880.

President's Address to the Maine Medical Association, June 15, 1880. By Seth C. Gordon, M. D. Portland, Me. 1880.

Notes on the Management of Orthopaedic Cases. By Virgil P. Gibney, M. D. (Reprint.)

Perinephritis. Fifteen Additional Cases in Children, completing a Total of Twenty-Eight. Remarks on Diagnosis and Prognosis. By V. P. Gibney, M. D. (Reprint.)

Hernia in Children: Based on a Study of Five Hundred Cases under Personal Observation. By Edward Swasey, M. D. (Reprint.)

Litholapaxy and Lithotomy. A Report of Eight Cases of Removal of Stone from the Bladder by these Methods. By H. O. Walker, M. D. (Reprint.)

Lectures.

CLINICAL LECTURE AT BELLEVUE HOSPITAL,
NEW YORK.¹

BY J. W. S. GOULEY, M. D.,

Professor of Genito-Urinary Diseases in the Medical Department of the
University of the City of New York.ORGANIC STRICTURE, PRODUCING RETENTION OF
URINE, OF UNUSUALLY RAPID DEVELOPMENT,
PHIMOSIS.

GENTLEMEN,—This patient, twenty-six years of age, is at present suffering from retention of urine, and he has of late been troubled a good deal with this difficulty. It occurs, he says, two or three times every week. Three years ago he had his first attack of gonorrhœa, and since then he has had several others. As there has been no history of traumatism here, it is certainly very remarkable that an ordinary stricture should have contracted sufficiently to produce retention of urine in the short space of three years. The process must have been extraordinarily rapid, since a stricture as narrow as this probably is usually of from five to twenty years' standing.

It is now 2.45 P. M., and the patient tells me that he has not passed his urine to-day. I shall therefore prepare to explore his urethra in order to find the stricture giving rise to the trouble, and at the same time discover whether there is more than one present, which is very probable. The first thing about the genito-urinary organs that attracts our attention here is the fact that the man has a well-marked congenital phimosis, but, not interfering with this for the present, I endeavor to pass a No. 10 bulbous rubber bougie, when I find that there is a stricture in the fossa navicularis which arrests it, and which bleeds when the effort to introduce it is continued. On substituting a No. 8 for it, however, it is found to be admitted by this stricture. Before proceeding any farther, I think it best to get rid of the phimosis, and by slitting up but little more than the mucous membrane of the prepuce, I am now enabled completely to expose the glans. The next thing that we discover is that the man has an enormous meatus urinarius, the opening amounting almost to hypospadias. He says that this is entirely natural, the part never having been cut, and yet, notwithstanding this huge meatus, a narrow stricture has occurred, as we have seen, in the back part of the fossa navicularis.

Now let us continue our exploration of the urethra. On attempting to pass a No. 8 into the bladder, we find that it is arrested at a point two inches and five eighths from the meatus, and we conclude, therefore, that there are at least two strictures. A No. 6 passes both of these, but is impeded at a point still deeper than the second, and then goes into the bladder. This point of obstruction is evidently a third stricture, and it is situated about the sinus of the bulb or at the bulbo-membranous juncture. This is the narrow stricture which produces the retention, and which yet is of only three years' growth. It is, I find, three quarters of an inch in width, its posterior border being six and a half inches from the meatus, and its anterior border three quarters of an inch nearer that orifice.

Now is there any way of getting through this third stricture with an instrument of larger size than No. 6 without cutting? There is; and I will next proceed

to show you the method. We have seen that a No. 8 was at first arrested by the second stricture, but, although it is greatly impeded by it, I can by a little manoeuvring succeed in passing it through that. I then stretch the second stricture by means of a No. 9, when, on reintroducing the No. 8, I find that I can now pass it with ease into the bladder. This shows that the third stricture will bear division, and that it can, no doubt, be entirely cured by that method.

I now introduce a rubber catheter, and evacuate the urine, which, you see, is quite clear, and contains no pus. From the way the stream comes, however, I judge that this bladder has but little power. I do not hesitate to draw off all the urine in this case, as it is within the quart. The largest quantity which I think I ever saw removed in this hospital was about eight pints, but this is by no means as great an amount as has been noted in some of the cases on record. The most remarkable of all was that of a woman about the close of the last century, who went from one hospital in Europe to another, it being supposed by some that she had an ovarian tumor, and various other diagnoses being made by different authorities. At length an old Russian surgeon concluded to catheterize her, when several gallons of urine were withdrawn, and the "tumor" disappeared.

I do not propose to practice division of the stricture here on this occasion, as the patient is not at present in a sufficiently good general condition, but I hope to do so as soon as this is the case. After the division has been made, however, the case should by no means be left to nature, for if this is done the trouble will return the same as before. In all such instances you should continue the dilatation for a considerable period by passing an appropriate instrument from time to time. This is a good case in which to effect a permanent cure, and this is to be accomplished, after the division has been resorted to, simply by introducing a sound once a week for a period of from one to two years. I have had patients who had been cured in this way under observation for ten or twelve years, and there has been no return of the difficulty. But no man ever permanently cured an organic stricture in a few months; for if we discontinue the dilatation after such a period as that, the stricture will be sure to come back. In the present case it will be advisable to pass a No. 8 or 9 until the patient gets stronger, and then to cut the second stricture. The inner one, as I said, I think I can cure without this.

I find now that by pulling the prepuce back behind the glans we have succeeded in setting up a paraphimosis, and in order that this may not occur in the future, and perhaps subject the patient to the danger of losing the end of his penis from a strangulation produced in this way, it will be necessary to slit the prepuce up a little further. By putting in a few sutures I have now converted this longitudinal incision into a transverse one, and it is only in loose tissues like the prepuce that we can succeed in accomplishing this. In four days the sutures should be removed, and it will then be found that the man has a very good-looking organ, with only a little transverse scar where the cut was made.

— M. Désiré Charnay contributes the third of his valuable illustrated papers on the Ruins of Central America to the *North American Review* for November.

¹ Reported for the JOURNAL.

Original Articles.

ON THE INAPTNES OF THE PERITONÆUM TO INFLAME, AND ON THE IMPORTANCE, FOR MEDICAL, SURGICAL, AND DIAGNOSTIC PURPOSES, OF HAVING FREE ACCESS TO THE ABDOMINAL CAVITY.

BY T. H. BUCKLER, M. D.

THE danger of opening the peritoneal cavity and of producing thereby fatal peritonitis has always been a cherished dogma taught in the medical schools of every country, and our present object is to show that the duty of the schools is to teach directly the opposite doctrine: that the risk is so very small as to amount to almost nothing, that there is no such thing as an idiopathic peritonitis, that the peritonæum is less liable to become inflamed than any other tissue or structure of the body, and that when inflammation does occur in this membrane it is invariably symptomatic, and depends, without exception, on some foregone mischief or preëxisting cause introduced or applied. M. Chomel said, over forty years ago, that he had never seen a case of idiopathic peritonitis. I have published somewhere the case of Colonel S. A., the anterior walls of whose belly were torn open, and a part of them irretrievably lost, from being struck with a flying fragment of shell. When he fell the intestines rolled out into a heap of gravel and fine sand, with which they, together with the omentum and mesentery, were covered. The surgeon, whose name I have forgotten, after carefully rinsing out the cavity of the peritonæum, and washing the sand from the mesentery, intestines, and omentum, returned them to their places, drew together the irregular wound as best he could, applied a compress and bandage, and his grateful patient, with the aid of an abdominal supporter, is now an active man in the enjoyment of perfect health. I have examined thirteen cases of fatal peritonitis, and found they all, without exception, confirmed the opinion expressed by M. Chomel; in every case, without exception, the inflammation having been caused by tubercle or some other foregone mischief. Two of these, but for bare accident, would have been set down as idiopathic. They are interesting; I will briefly relate them:—

A young man entered the Baltimore City and County Almshouse Hospital, suffering from acute peritonitis, of which he died next day. The following morning a very searching examination was made, requiring much time, because the intestines were all agglutinated together by recently secreted lymph, but no cause for the inflammation could be discovered. I told the students that here was a manifest case of idiopathic peritonitis which was very rare, and the first one I had ever met with. As we were leaving the dead-house a frivolous young doctor—the students were all graduates—took up a scalpel and threw it, point foremost, at the left psoas muscle, into and through which it passed, and out ran a quantity of pus. Further examination revealed caries in the last dorsal vertebra. My first decision was reversed, and the case entered as symptomatic peritonitis.

A youth, seventeen years of age, only son of the late W. H. DeC. W., consulted me for deeply marked jaundice. After carefully examining the boy, the father was informed that the jaundice could be relieved, but that he was also suffering from an abscess

of the liver, and that the recovery from it depended on the disposal nature might make of the contained pus. If it found its way through the lung or into the stomach or gullet he would recover, but if it discharged into the cavity of the belly the case would be fatal. The youth not only recovered from the jaundice, but looked in such high health that I began to regret having said anything about an abscess. Finally, some two months having elapsed, I was sent for at three o'clock in the morning to see this boy, who had been seized in the night with pain in his abdomen. Suffering myself from an attack of corbature, I sent the messenger to the late Professor Power to request that he would make a visit. In less than two hours Dr. Power came to inform me that the boy had acute peritonitis, and would not, in his opinion, live more than three days. At the end of that time he died, and at my desire the late Professors Power and Roby, of the University of Maryland, and Dr. Tilghman went to make a post mortem. Having deeply incised, at various points, the liver *in situ*, and not finding an abscess, the thing they were looking for, they searched for other possible causes of inflammation; but finding none, they came to the conclusion that the case was one of idiopathic peritonitis, caused by exposure to cold. Having replaced the organs and sewed up the cavity of the abdomen, just as Dr. Tilghman was going to wash the instruments, Professor Roby took up a scalpel, and finding on it a globule of pus said, "Where did this pus come from? We must reopen the abdomen, remove the liver, and search for its source;" this was done, with the discovery at the very summit of the liver, where it rests against the diaphragm, of an abscess with indurated walls, about the size of a small custard cup, the pus from which had found its way into the peritoneal cavity. They of course reversed their decision, and pronounced the case one of symptomatic peritonitis.

Like every other practitioner, it has been my lot to see cases diagnosticated as, and treated for, peritonitis which were nothing but inflammatory rheumatism or gout in the fibrous tissues connected with the abdominal muscles. Two cases of this sort in men who had during inclement weather slept on wet ground are particularly remembered, and all know that exposure to cold, wet, and dampness, and especially sleeping in wet clothes, are peculiarly the producing causes of acute rheumatism. All these cases of so-called peritonitis, but rheumatism in fact, without exception, recovered. Neither is the peritonæum likely to become inflamed from traumatic injury of any sort, as is proved by the way in which the peritoneal cavity has been pigouloled by operators for hernia,—femoral, inguinal, and umbilical,—to say nothing about the way in which the peritonæum has been clipped and gouged, and large portions of the omentum cut away by ovariotomists without exciting inflammation of any sort. And more provocative of inflammation than all this was the rude taxis—brutal assaults they should rather be called—practiced by some with the view of avoiding the necessity of using the knife. I have never witnessed, in or out of hospitals, these barbarous procedures for the reduction of femoral or inguinal hernia without saying to myself, Oh, that the brute would stop that most injurious torture, and do the almost painless operation of opening the skin and peritoneal sac, and cut with an Astley Cooper bistoury the crescentic margin of Pupart's ligament, and in inguinal hernia relieve the

strangulation by cutting directly upwards, as advised by Darrah! And where these operations for hernia have proved fatal the failure has very rarely been from supervening peritonitis, but rather from antecedent rude attempts at taxis, or gangrene of the intestine from not operating in time.

The only emergency believed at one time to justify a resort to free opening of the peritoneal cavity was a necessity for making the cesarean section. In these rare cases of hysterodectomy the incision into the uterus should always be made at the very centre of the top of its dome and in an antero-posterior direction, so as to avoid the circular muscles of Meckel surrounding the openings into the tubes of Fallopius, and at the same time the hazard of dividing any of the longitudinal fibres. But if the placenta happens to be attached to the fundus, then the incision should be made lower down in front or on either side, and in a course corresponding with the lines of longitude on a globe; but the incision should never be carried so far down as to divide the circular fibres of the cestus circularis muscle. Ovariectomy having so minimized the risk of opening the peritoneal cavity, it would not be surprising to see obstetricians substitute for craniotomy the cesarean section, thereby saving both child and mother. After the child and placenta have been removed, an assistant should compress the uterine artery so as completely to arrest hæmorrhage, and thereby give the surgeon time to wash out any blood which may have gotten into the cavity of the abdomen or that of the small pelvis. The compression being for a moment relaxed to show the bleeding arteries, he might apply to them torsion, and close the wound in the walls of the uterus by passing through its lips four or five sutures, the best description of which, from the tendon in the tail of the kangaroo, will soon be brought in abundance from Australia.

The day is likely to come when the views in regard to the danger of opening the dome of the gravid uterus from the cavity of the abdomen are to undergo the same change of opinion that has already taken place as to the risk of opening the cavity of the peritonæum. Observing due caution, there is no reason why either operation should be regarded as exceptionally hazardous. Dr. McDowell, in opening the abdominal cavity with the object of ovariectomy, went not only boldly against the dogmatic teaching of the schools, but directly in the face of arbiters of the medical and surgical opinions of his day; as men of McDowell's rare perceptions and moral courage are seldom to be found, it is to be hoped that the medical and surgical umpires of what is right and proper to be done will not raise their voices against opening the cavity of the peritonæum, on the line of the linea alba, for the purpose of tying the uterine artery, with the object of remedying the deplorable consequences of incomplete involution. If the objections to opening the cavity of the abdomen are found insuperable, the ischiatic artery should be taken up, and if that fails to accomplish the object, then the pubic should be tied, from which the uterine artery sometimes takes its origin. And this step having been taken, would it not be well for the journals and all other vehicles of advanced medical thought and opinion to go still further, cancel every objection, and declare the cavity of the peritonæum as free to the general practitioner of medicine and surgery as it has been for a very long time to the obstetrician and ovariectomist? With the understanding that, having a scalpel for the key, the

cavity of the abdomen is always accessible and may be opened by lineal incision at any time required, not only for the performance of operations, but for purposes of diagnosis, *a new field is open to both the physician and surgeon.* Times without number in cases of ileus¹ have physicians and surgeons been seen palpating a meteorized abdomen, with the ostensible object of diagnosing the cause and locating the seat of obstructions. As well might they have felt all over the top of a hair trunk with the view of ascertaining its contents. To obtain true information, the former, like the latter, has to be opened and its contained holdings laid bare. I saw recently a case of ileus in a gentleman about sixty. He was attended by two eminent practitioners of the Paris school, a distinguished professor of surgery and member of the medical faculty, and a noted electrician. There were several surmises as to the origin of the attack, and as many conjectures with respect to the probable seat and exact nature of the obstruction. He was awakened on a Wednesday morning at four o'clock with pain in the bowels and sick stomach, and threw up undigested string beans and other articles he had eaten at seven o'clock the evening previous. Tuesday morning, the day before, he had eaten muscles, — bivalves from the French coast. On Thursday particles brought away by enemata were of a pale slate color, but early on Friday morning he passed about two quarts of fluid tinged with recent bile, which latter had come from beyond any supposed point of obstruction. The pulse on Thursday was 108 and on Friday had gone down to 76. There was during Wednesday, Thursday, and Friday great tenderness on pressure over the entire abdomen, but especially about the right iliac region, and on the last-named day the tympanitic distention was excessive. The attending physician, whilst palpating the abdomen, was heard to say, Oh, if we could only look in and see where the trouble is!" The upshot of the matter was recovery from what must have been at first a furious attack of indigestion, incited probably by the muscles eaten on Tuesday, supervening erethism of the intestinal mucous membrane, fever of the simple inflammatory type, and a tendency to typhlo-enteritis, all of which was sufficient to account for the paresis of nerves presiding over peristaltic movements.

I can recall three cases of obstructed bowels where, by timely opening of the abdomen, the lives of the patients might have been saved, — one, a Mr. C., who had been treated by two leading physicians and an eminent surgeon. A post mortem in the case revealed the fact that a coil of the ileum had passed into the left pleural cavity through an opening on the left side of the diaphragm, in which it had become strangulated. It then came to the memory of a friend of the deceased, who happened to be present, that as a boy the now unfortunate victim of blind practice and concealed trouble had had with another boy a fight with knives, during which he was stabbed in the left side, the scar on which was still very apparent; and the presumption now was that the knife must have passed upwards through the diaphragm, and have made the opening into which the coil of intestine had at last found its way.

¹ The ancient term "ileus" and the modern one "uterodectomy" are altogether too general in their signification, and convey no exact meaning such as the specialist is supposed to require: the former is used without furnishing a hint as to the nature or precise seat of the obstruction, and the latter without throwing a ray of light on the character and functions of the structures divided by the knife. For the sake of precision and perspicacity, each of these unmeaning terms, serving only to mislead, should be expunged at once from the medical and surgical vocabulary.

Six years ago the writer was asked to see, with Dr. Milten Berger, a boy about five years old, who six days before, while playing with other children, was suddenly seized with pain in the belly. All other means having failed, it was advised that the lineal opening be made into the peritoneal cavity and the cause of obstruction searched for. Prof. Milten Berger having a scalpel in his pocket case, I made an incision into the abdominal cavity about three inches long, commencing an inch below the umbilicus, and at once a coil of intestine as black as soot came into view. A diverticulum about three inches long, and attached at its end by a shred of fibrous tissue to the mesentery where it joins the gut, formed, with the ileum from which it sprang, a loop or link, through which the coil of intestine had slipped and become strangulated. The portion of intestine confined was released by simply dividing the fibrous band and setting free the end of the diverticulum, but death of the strangulated portion of the gut had already taken place. Three days earlier this operation might have been a success.

In the third case the post mortem discovered the obstruction to be owing to a mass of cholesterine blocking up the jejunum where it joined the duodenum. Intraperitoneal inspection would have told that this plug could be nothing else than cholesterine, and ether or chloroform given by the stomach would have speedily dissolved it. Lineal section of the peritonæum should in these cases be resorted to before meteorism takes place. Mechanical obstruction of the bowels must not be confounded with obstinate constipation, sometimes depending on and exclusively caused by erethism or pointed injection in the white tissues or substance of the brain giving rise to a reversal of peristaltic action. In a case of this sort, where all the usual cathartics and enemata had been given for days without effect, the patient, a woman, after the third dose was relieved by taking every four hours fifteen drops of a fluid extract of *podophyllum peltatum*. Constipation from brain trouble is the only condition in which I ever give, and fluid extract the only form in which I have ever used, this very drastic agent. In cases *unattended with fever or inflammation*, twelve or at most fifteen hours are sufficient to tell whether the obstruction is likely to be removed by enemata, black draught, or electricity. These failing, the abdomen should be opened and the cause of obstruction looked for. If it is ileo-cæcal invagination or intussusception in the small intestines or colon, pull out the intussuscepted portion as you would draw out the turned-in finger of a glove. Some twenty-one other twists, kinks, and tangles of the bowels have been discovered after death and described, most of which might have been set to rights by timely lineal section, exploration, and rectification. With free access to the cavity of the peritonæum, untrammelled by popular prejudice or hostile professional opinion, the average surgeon would, when required, with confidence and without hesitation or delay, make the lineal section and search for the cause of obstruction.

But there are other objects for which lineal section of the peritoneal cavity may be required. In a case of aneurism of the mesenteric branch of the iliac artery, when the abdomen should have been opened and the artery tied, I was counseled against an attempt at ligature because of the danger of exposing the peritoneal surfaces and the risk of provoking a fatal peritonitis. When the young man died, from rupture of the

aneurismal walls and hæmorrhage into the peritoneal sac, a post mortem disclosed the fact that there was an inch of the artery whereon a ligature might have been placed. Seeing the very small risk of opening the peritoneal cavity, it becomes a question whether it would not be far better, where the external and especially the internal iliac artery is in question, to make the lineal section and operate from within, rather than cut outside and behind the peritonæum, according to the usual custom. I have seen from secondary hæmorrhage two fatal cases of attempted ligature of the external iliac, the internal coats of which, being in both instances only partially divided by the ligatures. At the bottom of the deep cut required to reach the artery from the outside, it is extremely difficult to pull with force the opposite ends of the ligature in a right line with each other, so as to give the loop formed by the tie sufficient incisive force to divide clearly the arterial coats, without which secondary hæmorrhage is sure to supervene.

Access to the peritoneal cavity should be had whenever a foreign body exists, or, from the symptoms, is gravely suspected to exist, in the appendix vermiformis. I have seen two cases of this sort, both of which were fatal. In one a small fragment of bone, supposed to have been swallowed in beef soup, was lodged half an inch within the mouth of the appendix, and in the other a duck-shot, which had passed down to the very end of the blind cul-de-sac, were removed from the appendix after death. In the former the symptoms were tenderness over the right iliac region, constipation, pain coming on in paroxysms, and in fact all the signs of a local peritonitis which finally proved fatal. The other case had been treated for typhoid fever by the late Dr. Bull, who asked me to see it on the twenty-sixth day, when the patient had meteorism and carphologia with sub-sultus action of the tendons about the wrists and ankles. The movements of his arms were at one time volitant, and at another like those of a weaver at his loom. These nervous symptoms had existed in greater or less degree for ten days. There had been very little evidence of pain or tenderness about the abdomen, which was slightly convex. No previous history bearing on the case could be had, except that a week before the attack he had gone to shoot ducks on Back River. The prescription of Dr. Graves, of Dublin, for insomnia was ordered for him, and the next morning, having slept, he seemed better, but that night he died. As the case was evidently not typhoid fever, and I was curious to know what it might be, a post mortem was asked and after some trouble obtained. Having laid open and examined the alimentary canal throughout its entire length without discovering anything, I then, with probe-pointed scissors over a basin of water, opened the appendix, and on getting to the end of it heard something, which on examination proved to be a duck-shot, drop into the basin beneath. The shot had, by compression and absorption, bored its way through the mucous membrane, and was held, when the blunt point of the scissors touched it, only by the peritoneal coat, on the outside of which, at the extreme point of the appendix, was a thin plate of semi-organized lymph about a line in diameter. All the membranes and organs were everywhere else perfectly sound and healthy. If at any time during his illness the end of the appendix could have been held up, the shot must have rolled down and out into the intestine. A Peyer's patch, generally regarded

as belonging only to the ileum, or in other words aggregated glands, not only lines throughout the appendix on its inside, but covers continuously to a greater or less extent the mucous membrane outside of its mouth. Taken in connection with the anatomical structure of the appendix, what occurs in some ataxic cases of typhoid fever, and remembering that this young man, aged about twenty-two, died from nervous delirium, insomnia, and exhaustion, the peculiar position of this shot and the very slight lesion its presence occasioned, become extremely interesting in a physiologico-pathological point of view. I had aforetime noticed in typhoid disease attended with grave ataxic symptoms that the fatal cases occurring from long-continued nervous agitation and final exhaustion, always gave post-mortem evidence of more or less ulceration in the patch lining the appendix, and from this shot case we are led to believe that the distressing symptoms in question are due not to a peculiar type of typhoid disease, but rather to ulceration in the aggregated glands lining the appendix, which is probably extensively provided with these bodies because it is at a point where much lubrication is needed; and physiologists say that one function of these and of the isolated glands is dehiscence.

Dr. I. Howard gave me the particulars connected with the case of a cousin of his, — a clerk in a coffee warehouse, who died in his twentieth year, after symptoms very similar to those in the beef-bone case described. A flat half grain of coffee found lodged near the mouth of the appendix had nearly worked its way by ulceration into the cavity of the peritonæum. It should be noticed that in two of these cases the victims had swallowed bodies which they had been daily in the habit of handling, a point in the history of other cases worth inquiring about. By careful analysis of the signs and symptoms, and by exclusion, the presence of a foreign body in the appendix vermiformis ought to be diagnosticated sufficiently early and with sufficient certainty to justify the operation for its relief. This would consist in making the lineal section, and, having ascertained the presence of a foreign body, taking, the end of the appendix between the thumb and forefinger of the left hand, and with the thumb and forefinger of the right hand pressing against and stripping it out into the colon, just as a marble or other body might be pressed out from a finger into the hand part of a glove.

Let it no longer be said that perforation of the ileum in typhoid fever is of necessity fatal, or that its occurrence is not only a death-warrant, but an execution of the sentence as well. About forty years ago I spent a part of several days at the Boston Pathological Museum with that model of incomparable human excellences, the late Dr. Jackson, who, then in the golden hours of his prime, zealous in the pursuit of pathological anatomy, and perfectly happy in his daily vocation, gave to his friends a mingled look of consolation and encouragement, as though he would say to one and all of them, *Beati possidentes*. After exhibiting a number of interesting pathological specimens and decanting on them most knowingly, he (Dr. Jackson) showed me, preserved in spirits, a perforated intestine taken from the body of Mr. A., medical student, who had died a short time previously of this accident in typhoid fever, the attack being so mild that his medical friends looked on it as a mere morbid probation; and as proof that they were right in regarding it as a mild case there was found in the whole line of the ileum but one single ulcer about the size of a pea, and situated about three

inches above the cæcum; it had bored its way through the mucous, muscular, connective, and peritoneal layers into the cavity of the peritonæum. Since that day it has been discovered that bits of skin applied to the surfaces of chronic ulcers take root. It is also known that from the end of the prodrome and commencing with the chill ushering in typhoid fever, or more properly typhoid disease, which often goes through its course without any fever, Peyer's patches and the isolated glands undergo softening for about seven days, at the end of which time sloughing takes place; then for seven more days the patches are open ulcers, this being the suppurative stage; and finally that during seven additional days, making in all twenty-one, the process of cicatrization goes on, and being completed, as it is usually, at the end of the twenty-first day, convalescence commences. During the last seven days abundant reparative lymph is poured out on the surfaces of the ulcers. If my memory is not at fault it was between the fourteenth and twenty-second day, or during the period of cicatrization, that complete perforation in this case of Mr. A. happened. It is important to mark the period at which perforation takes place; for while it may be difficult or impossible to repair the damage done to the wall of the ileum during the stages of softening and suppuration, it may be perfectly possible to patch and mend the intestine during the last seven days, when Peyer's patches are cicatrizing and abundant lymph is being poured out on their surfaces. In one other case that came under my observation in consultation, but too late for surgical interference, perforation happened on the seventeenth day. The intestines, on post-mortem examination, were found so soldered together by coagulable lymph that the opening, about six inches above the lower end of the ileum, was only found on looking for it from within the calibre of the intestine. The sides of the ulcer were related with the intestine, nearly perpendicular to its walls, and the opening looked as though it had been formed with the punch of a harness maker.

With free access to the peritoneal cavity, it would therefore appear that the medical attendant, unless he be competent to operate, ought as soon as perforation takes place to hand his case over at once to a surgeon, whose duty it would be to make the lineal section, and having found the perforation to get an assistant to close it between his thumb and forefinger, while with a soft sponge and distilled water he carefully washes out from between folds of the peritonæum fecal or other matter that may have already escaped. He should then cut from one side of the lineal section a bit of peritonæum with as good a backing of cellular tissue as he can find, and form it into a plug to fit into the perforation pretty tightly, but not so tight as to wrinkle its peritoneal head, which should be exactly adjusted so as to form with the peritoneal covering of the ileum a perfectly smooth surface, as though there were only a crack or narrow crevice between them. Having previously armed six fine catgut or stretched horsehair threads with the most delicate needles, pass them through the edges of the peritoneal covering of the plug and of the intestine at six hexagonal points, and on tying them so arrange the knots that they may help to fill up the outer openings made by the needles. Clip off close to the knot the short end of each thread, leaving the longest ones to be used as presently directed. Having made a hexagonal pad out of the peritonæum of a cat or rabbit, previously prepared in chlorinated water,

and dried, but moistened when used, let its six sides be nicked at their centres, so as to admit the threads which are now to be carried across the compress and tied on top of it.

This operation, performed at any time during the last days of typhoid disease, while Peyer's patches are cicatrizing and reparative lymph is being abundantly provided, would no doubt succeed in a large majority of instances. Coagulable lymph is so rapidly poured out from inflamed or wounded serous membranes that the peritoneal lining of the plug and that of the intestine would, without question, be soldered together in a few hours. Some surgeons might prefer to graft the borders of the perforation to the peritonæum lining the anterior abdominal walls. Two or three hours before the operation the alimentary canal should be flushed or washed out with Rochelle salts or some other form of wet purge. And after the operation is over, at least three grains of powdered opium should be given to the patient if an adult. Dr. Jackson did not place his specimen in the museum as a mere unmeaning gnome, or simply to alleviate gaping curiosity, but because he thought that with the advance of knowledge it might be turned to useful and practical account; and should the proposed operation ever succeed, it will be an instance in which life has been preserved as the direct sequence of his pathological work; and that prolonged life will come out of other seed he has strewn is not to be doubted.

With free access to the cavity of the peritonæum conceded, the most important question of all is yet to be decided; this has to do with ovarian cysts as they exist within reach of the gynecologist in the cavity of the small pelvis, or when, emerging therefrom and undergoing evolution, growth, and final development in the cavity of the abdomen, they become ripe fruit for the ovariologist. Shall these cysts, while yet in the cavity of the pelvis, be excised by penetrating the walls of the vagina, or shall the lineal section be made, the ovary be lifted out from the pelvic cavity, and the cysts be nipped in the bud by being clipped from the ovarian stem with scissors? Or, rather than destroy these cysts in their incipency by either of the above methods, shall it be deemed more expedient to advise that the abdomen of the female be made a sort of truck-patch wherein to cultivate cysts until they become formidable ovarian tumors, to be tapped and gathered like watermelons by the ovariologist? These questions can best be answered by inquiring into the ætiology of ovarian cysts, their growth and mode of production. An ovarian cyst, however small, is a sort of siphon, drawing to itself an afflux of blood from which it derives the materials of its rapid growth and development. As the cyst enlarges, this siphonic power becomes greater and greater, and having attained a considerable size its hydraulic performance, through exosmosis from the arteries on the one hand, and endosmosis through the veins on the other, is like that of a double-action pump. By means of this hydraulic power the cyst or cysts are lifted or forced up from the cavity of the small pelvis into that of the abdomen. Let any one who doubts the movements of fluid into and out of these cysts, and the power thus derived, feel the ovarian artery before and after the contained fluid has been drawn off from them, and his opinion on this point will no longer waver. The amnion is also a membrane endowed with this hydraulic power, by which, mainly, the uterus at the time of quickening

passes from the cavity of the small pelvis into that of the abdomen; in other words, the new being is carried from the lower to the upper house in an *ascenseur*, or hydraulic lift. And thus, too, the fluid contained in the amnion is renewed and kept from becoming stagnant. It must be seen, therefore, that through these siphonic acts the development of ovarian cysts takes place, and that cutting off their tops or through their centres — a bloodless operation when they are small, thereby destroying hydraulic power — arrests at once their growth, and they wilt and fade away, thus rendering amputation of the pedicle or ligature of the ovarian artery needless. As the presence of these cysts in the small pelvis can be determined when they are not larger than a hen's egg, it would seem best, after the system of the woman has been prepared for the operation, to make the lineal incision, lift up the stem of the ovary, and crop off the tops of the cysts with scissors, rather than tax her health and strength in cultivating the mature fruit which, with added risks from dividing the pedicle, has at last to be extirpated.

Having shown in the beginning that there is no such thing as idiopathic peritonitis, and that the peritonæum may be hacked, torn, and portions of it cut away without exciting inflammation, it now becomes a duty to say, in conclusion, that there are several hurtful but preventable influences which are as a rule most obnoxious to all serous surfaces, and that, with a view of successful surgery within the cavity of the abdomen, these causes of peritoneal inflammation have with the strictest care to be avoided.

First on the list of causes likely to excite fatal peritonitis must be placed the morbid animal poisons, and of these most especially that of erysipelas, simple, phlegmonous, and puerperal.¹ On three several occasions, during nine years, a single case of erysipelas admitted to the wards of the Baltimore City and County Almshouse Hospitals was the starting-point for the spread of its poison to all the medical and surgical wards to such a degree that the most trivial operations had to be avoided, and even the slightest scratch on the skin was likely to take on erysipelas, followed in some instances by phlebitis and pyæmia. At last the poison reached a lying-in ward, more remote than the others from the sources of infection, with invasion so fatal that after a time for a woman to be delivered there was certain death, the chill ushering in the fever occurring in every instance within eight hours after the birth of the child. Lineal sections of the abdomen made for any object in an erysipelatous atmosphere of this sort would without exception prove fatal. Finally, the expectant women were all sent away and none others admitted for three months, during which period the wards were thoroughly cleaned, ventilated, scoured, and white-washed, and the weather being mild, so that the windows could be kept open, all the wards were at the end of ninety days perfectly freed from every trace of poison, so that surgical operations were again resumed and conducted, with results not less successful than before the toxical invasions occurred. In many insalubrious locations it is inhuman and barbarous to admit a case of erysipelas, diphtheria, or other morbid poisons, but most of all erysipelas, into a hospital filled with benign cases. Far better let loose in the wards a number of vipers, copperheads, or rattlesnakes, for there is a chance that these venomous reptiles might become

¹ See pamphlet on the Poison of Puerperal Fever, by Dr. Oliver W. Holmes.

tamed; but the poisons in question are untamable, subtle, virulent, and deadly; under different phases, they are the arrows by day and the pestilence that walketh in darkness, and all the more alarming for being unseen.

The next irritant most obnoxious to the serous membranes and walls of the abdomen within, and not less to the synovial coverings lining the cartilages on the inside of the joints, and to be avoided in both, is any sort of insoluble dust or grit,¹ such as fine particles from the disintegration of rock or stone, and likely to be blown from a paved or macadamized street or road. If the day is windy, with any of these particles in the air, the windows of the room in which the cavity of the abdomen is exposed in one case, or of a joint in the other, should be kept closed. The apartment in which the cavity of the peritonæum is opened for any object should be without carpet or curtains, and have a waxed floor; but whether this latter is obtainable or not, shortly before operating the floor should be sprinkled with moist tea leaves and brushed. The surgeon and his assistants should, before entering the room, remove their coats, lest these should contain particles of dust. A stout, healthy young man had blown into his right ankle-joint, exposed from compound dislocation, a small quantity of dust from the York turnpike road, near York, Pennsylvania. Dr. Holler, surgeon of the place, reduced the dislocation. Two days after, acute gangrene set in. Blebs containing bloody serum, and preceded by the usual pink zone, extended to the upper third of the thigh, where a fatal amputation was performed by me. On the surface of the synovial membrane covering the ankle-joint was found some fine, gritty dust. Great care should also be taken that the sponges used contain no grit, and that every particle of sand shall have been washed out of them. As few instruments are required in lineal section of the abdomen, it is best to have new ones for each operation. If the case occurs in the country, and there is any pollen from the flowers or other dust in the air, the windows of the operating room should be closed. The surgeon should go to work with clean hands, and antecedent to the operation it is essential that both he and his assistants shall not have been near a case of erysipelas, hospital gangrene, puerperal fever, scarlatina, or diphtheria for at least a period of one month. The seventy-three continuously successful cases of ovariectomy by Keith, and a very large number besides equally successful, performed by him and others, and largely due to the operations having been done outside of hospital atmosphere, so minimize the risk of opening the cavity of the peritonæum that with due care the lineal abdominal section can no longer be regarded as exceptionally dangerous.

After what has been said, would it be wrong to indulge an expectation that the schools will not only teach the cautions to be observed in opening the peritoneal cavity, but that they will also advocate a resort to the lineal section for the objects and under the circumstances herein specified; and that they will instruct their students, when occasion requires, to open the cavity of the abdomen with the ease and composure exhibited by the exciseman when he exposes the contents of an imported trunk? It is not desirable that the character of the surgeon should be "altogether lovely," since he might be imposed upon by the curious, who in their eagerness to witness the operations, and coming with

unbrushed clothes, might in their struggle to catch a glimpse raise a very pernicious, dangerous, and perhaps fatal dust. Neither is it important that the head of the surgeon should "go before him," on a charger or otherwise; nor indispensable that he should be a "great and good man." This phenomenon not having appeared during the Christian era, the world might with these requirements have to go forever without an ovariectomist. It is, however, essential that the gynecologist should be a pure, upright, and highly honorable man, since his pursuit is one that could so effectually cover up and conceal from the eye of the law the mean, diabolical, and most cowardly crime of procuring abortion, unless done to save the life of the mother. Therefore, to prevent incursions of the vulgar and invasions of this department by unprincipled vandals, he should seek, by improving his very imperfect art and rendering it as much of a science as possible, to place it beyond the intellectual reach of this order of human vultures.

2 RUE DE PRESSOURE, PARIS, June 15, 1880.

RECENT PROGRESS IN ORTHOPÆDIC SURGERY.

BY E. H. BRADFORD, M. D.

LATERAL CURVATURE.

MR. ADAMS, of London, in an excellent paper, read before the Royal Medical and Surgical Society,² states his opinion as to the value of the treatment of this affection by plaster-of-Paris jackets, as follows: that it is as "useless and injurious" to treat lateral curvature in this way as it is beneficial in caries of the spine. Lateral curvatures are classed: (1) as physiological curves; (2) confirmed structural curves; (3) commencing structural curves. In making a diagnosis a stooping position is of importance for the purpose of determining the amount or existence of rotation, attention being paid not to the spinous processes, but to the angles of the ribs in the dorsal and the transverse processes in the lumbar region. In commencing structural curves, where the intervertebral cartilages in all probability are alone affected, the curvature is more apparent in the standing than in the stooping position, although it does not entirely disappear in the stooping posture, as is the case in the physiological curves. In treating the physiological curves no mechanical restraint by any form of support should be allowed, reliance being placed entirely on physiological means, such as gymnastic exercises, partial recumbency, and attention to the general health. In some cases an elastic brace attached to stays might be used.

In confirmed structural curves mechanical support of some kind is necessary and needed, during the period of growth, to prevent an increase and to obtain some improvement, but a cure cannot be expected. Mr. Adams considers the most efficient retentive support an instrument made with a pelvic band and spring plates attached to vertical bars at the back. Steel plates fastened to levers and adjusted by a rack-and-pinion movement may sometimes be of advantage, but not always. Plaster-of-Paris jackets, the writer thinks, fail as a curative agent: the gain in height by extension is quickly lost; the spinal muscles are weakened, and gymnastic exercise impossible; respiratory move-

¹ See Professor Tyndall on Dust.

² Medical Times and Gazette, June 5, 1880, page 623.

ments are restrained, and active exercise prevented; the treatment is unnecessary at night, and bathing is interfered with. Poroplastic jackets, being removable, are free from the disadvantages of plaster, and in many cases of incurable curvature serve as a light retentive support.

Commencing structural curves are to be considered curable, and for these a combination of mechanical support, gymnastic exercises, and partial recumbency forms the treatment.

Busch¹ classes lateral curvature, scoliosis, as among the deformities induced by the effect of unequally imposed weight upon growing bone (*ungleichmässige Belastung*). The writer rejects the theory of causation, advocated by Hueter, namely, that the deformity is due to an unequal growth of the ribs; also that attributing the disease to a destruction of the balance between antagonistic muscles; which combine to hold the spine straight. He explains the deformity in all cases as due to a faulty position assumed through fatigue or the unequal distribution of weight, which position in time becomes permanent.

Volkman² criticises Busch's conclusions in regard to treatment. The latter believes that myotomy should never be done, but Volkman mentions having twice cut the sacro-lumbalis muscles in a severe case of deformity, caused by the cicatricial contraction of the muscles of the back, with a good result. He has never seen a case where this is needed in a pure lateral curvature, but he can imagine such a one as possible. He recommends the employment of the poroplastic felt jacket as preferable to the plaster jacket, apparently using it even in what Mr. Adams would term commencing structural curves. He, however, admits that as yet we do not know with certainty whether confinement of the trunk by the plaster or felt jackets for a long period do not injure the development of the chest and cause an unhealthy condition of the bone and an atrophy of the muscles, and that an apparent cure may not relapse rapidly after such treatment.

INTERMITTENT HYDROPS ARTICULORUM.

Seeligmüller³ has collected thirteen cases of a rare intermittent articular affection. In healthy patients without prodromata an extreme swelling of one or both knees appears, without inflammatory symptoms and without fever. The swelling soon reaches its maximum, remains a short time stationary, and disappears completely. In the majority of the cases the symptoms recur at certain intervals with regularity, the interval being from eight days to two weeks, and lasts from four to six days. The knees are the most frequent site for the swelling; more rarely the hip is affected at the same time. Little is gained by treatment, though in two cases quinine and arsenic were said to be of some use. The pathology is not understood, but any connection with the ordinary poison of intermittent fever has not been shown, and is not probable, as in only two of the patients could any other symptoms of intermittent fever be determined. The observer publishes one case, which continued through the greater part of the patient's life-time.

CLUB-FOOT.

The subject of the treatment of aggravated cases of club-foot by a section of the bone has already been referred to in the JOURNAL.

¹ Berliner klin. Wochenschr., 1880, i. 106.

² Centralblatt für Chirurgie, No. 30, page 483.

³ Deutsches med. Wochenschr., 1880, 5 and 6.

Ried contributes an article on this procedure.⁴ He considers the operation as indicated not only in the severe cases, but also where, from any cause, through trauma or otherwise, an anchylosis of the tarsal bones has taken place, leaving the foot in a deformed position. He mentions two such cases successfully operated upon. The first was a patient forty-three years old, with an acquired equinus and a slight varus, where treatment by milder measures did not promise success. An incision was made on each side of the foot, over the malleoli. Both bones were bored through, a half centimetre above and parallel to the line of the joint, in a direction from the outside to the inside. A key-hole saw was inserted, and the bones sawn through both in front and behind. The astragalus was then bored through from below the lower end of the internal malleolus, and a saw inserted, and the bone sawn through in such a way that a wedge-shaped piece was cut and removed. In four weeks the wound was healed; in three weeks the patient was able to walk on crutches, and is reported later to have entirely recovered. The second was a similar case, also successful. Three cases are also reported of section of bone in congenital club-foot. The patients were all children, being four, five, and fourteen years of age. The astragalus was removed, with a portion of the calcaneus from the foot of the first patient, with perfect recovery from the operation, and with a perfectly useful foot. The second patient was operated upon by making a wedge-shaped section of the tarsus with a saw. The result was entirely satisfactory. In the third case the astragalus was dissected out, and was also successful. The writer believes that enough facts have not yet been collected to demonstrate which procedure is the better, the section of the tarsus or the removal of the astragalus, but he believes that a dissecting out the cuboid will not be sufficient in an aggravated deformity, since this is due to an abnormal shape of the astragalus. Removal of the cuboid, scaphoid, and astragalus, performed by We-t, deprives the foot of too much bone, and diminishes its strength. Whether taking away of a wedge-shaped portion of the tarsus will eventually injure the strength of the arch cannot be definitely determined, as the operation is as yet too young to permit definite facts as to the final results of the operation. Removal of the astragalus with section of the fibula is not open to these objections. In either procedure a section of the tendo-Achillis may or may not be needed.

König⁵ reports three patients operated upon by excision of a wedge-shaped portion of bone from the tarsus; the ages were twelve, thirteen, and nineteen years, and the deformity was in all equino-varus. This was double in one of the cases, and both feet were operated on with a month's interval. The patient recovered from the operation, and at the end of four months was able to walk about well. Death followed ten days after the operation on the second patient. At the autopsy, extensive valvular disease, with signs of ulcerative endocarditis, was found, with changes in the lung. The third operation was successful. König believes the operation of the excision of a wedge-shaped portion of bone is the surest and safest way to treat neglected club-foot, being safer and surer than forcible stretching.

Rupprecht⁶ reports five resections of a wedge-shaped portion of bone from the tarsus. The operation was successful in all. The enthusiasm of the operator is so

⁴ Vide Deutsches Zeitschrift für Chirurgie, 1880, xiii., 114.

⁵ Centralblatt für Chirurgie, No. 13, 1880.

⁶ Centralblatt für Chirurgie, March 13, 1880.

great that he advises resection of the tarsus in all cases of congenital club-foot neglected in the first year of growth, and treated unsuccessfully for a year or so, in preference to relying upon tenotomy, which he regards as of little use in such cases.

Mensel¹ is said to have been the first surgeon who performed this operation in Germany. He has operated five times successfully.

Yost² mentions an unusual spontaneous cure of a congenital talipes varus of one foot. A child was born with well-marked talipes varus, with prominence of the tibialis anticus tendon. Three months after birth the deformity had entirely corrected itself without any attempt at treatment.

CAUSATION OF RACHITIS.³

To combat the theory that in rickets there is a waste of the lime salts, the writer examined the urine of rachitic and non-rachitic children. He found that in the former there was less lime excreted than in the latter. The poverty in lime salts which rachitic children suffer from must therefore be due to a want of the supply. But the poorest food has been found to be sufficiently rich in lime to supply the economy. Hence the defect in this disease must be in the digestion or assimilation of food. A lack of hydrochloric acid is supposed by Seemann to cause this, and on theoretical grounds he advises in treating rickets to supply the system with chloride of sodium in as large quantities as possible, given either in the food or in salt baths, as chloride of sodium has been found to yield its chlorine readily.

Boeckel⁴ has published his opinion on osteotomy, after a considerable personal experience. He has collected the statistics of one hundred and eighty-two cases. In none of these was the result fatal, and in all the deformity was entirely corrected. He considers that the operation is entirely free from danger. In lighter cases treatment by means of apparatus may suffice; where locomotion is interfered with by the deformity, operative interference is decidedly preferable. Operative interference by manual force alone is rarely of service; and the author is not an advocate of the osteoclast, as he considers it dangerous. Boeckel does not remove a wedge-shaped portion of bone except in bad antero-posterior curves. He claims that the chisel is a neater instrument than the saw. The chisel is to be driven through the bone, and not partially through, as in straightening there is in this way no danger of splintering. The limb should be immediately straightened and fastened in a plaster-of-Paris splint. In a month, as a rule, the bones are sufficiently firm to permit the removal of splints. The patients may be allowed to go about six or eight weeks after the operation. Antiseptic precautions are essential. In one of the operations reported by Boeckel he operated for deformity from badly united fracture of the thigh. The greater part of his operations were for rachitic deformity.

Volkman⁵ has performed the operation of chiseling through the femur below the trochanter twelve

times, with perfect success. If anything is needed to demonstrate that a lack of boldness is not a defect of the German school of surgery, this would be supplied by Volkmann's article, in which he advises, where it is desirable to obtain a movable joint in ankylosis at the hip-joint in a faulty position, not only to chisel through the femur just below the tip of the greater trochanter, but to form an artificial acetabulum by removing, by means of a chisel, the head of the femur ankylosed with the ileum. This he says is a tiresome procedure, requiring care, but he claims that it is well borne by patients, and if antiseptic precautions are thoroughly used the wound heals by first intention without suppuration. Extension is to be applied, else an ankylosed joint will result. Where this is expected, as in simple sub-trochanteric resection, a stiff bandage, and not extension, should be applied. The writer claims that chiseling the hip-joint, in distinction from resection below the trochanter, should only be done on selected cases. He has operated in this way six times, with recovery in all, apparently with motion at the new joint. Simple osteotomy of the femur is the preferable operation in the majority of cases; but chiseling out the head of the femur in addition to the section of the femur⁶ is indicated where double ankylosis exists. If there remains any active process at the hip, resection is preferable to osteotomy. The incision in either operation is the ordinary straight cut used by Langenbeck for ordinary excision of the hip.

Mensel⁷ reports a case operated on successfully by him for ankylosis of the hip-joint in a faulty position. The result was such that the child, a girl of fourteen, was able to walk about firmly and in a straight position. Mensel removed a wedge-shaped piece of bone from the femur below the trochanter, using an osteotome in place of a chisel, which he thinks is apt to splinter the bone.

CARIES OF THE ANKLE.

Dr. V. P. Gibney⁸ draws conclusions from the study of thirty cases, as follows:—

(1.) Many children undergo amputation where by conservatism the member could have been saved. (2.) Excision, as a rule, is not attended with as good results in children as authorities have led us to expect, and is rarely ever justifiable. (3.) Partial excisions, etc., offer no advantages over the expectant plan. (4.) Nature herself, unaided by art, gets useful limbs, but as a rule with ankylosis. (5.) The expectant plan, fully carried out, assures us of results more perfect, and more limbs that are useful without the aid of support than does any other plan known to the profession.

Dr. Gibney states that thirty-four amputations were performed in England alone, in one year, for caries of the ankle. The expectant plan, as defined by Dr. Gibney, consists of abstention from radical operative interference, but not from incision. If an abscess form it is to be opened, and if any loose bone is found it is to be removed. The subject has been further inquired into by the Therapeutical Society of New York,⁹ and the committee of this society indorses Dr. Gibney's views. The duration of treatment in sixteen cases averaged two and one half years: fourteen useful joints

¹ Centralblatt für Chirurgie, No. 11, 1880.

² Medical and Surgical Reporter, Philadelphia, March 27, 1880, page 283.

³ Seemann. Virchow's Archiv, Bd. lxxvii. p. 299.

⁴ Nouvelles Considérations sur l'Ostéotomie dans les Incurvations rachitiques des Membres.

⁵ Osteotomia subtrochanterica. Centralblatt für Chirurgie, 1880, No. 5, page 65.

⁶ Meissel. Resection des Hüftgelenk.

⁷ Centralblatt f. Chir., 1880, No. 8, page 123.

⁸ American Journal of Obstetrics, vol. xiii., ii., April, 1880.

⁹ Satterthwaite, New York Medical Record, August 21, 1880.

were obtained, and there were two failures. In each of these the child died of prolonged suppuration. Gouging and chiseling were practiced in five cases in conjunction with other methods, and gave a useful foot in three; in one this occurred in five months. The writer thinks that the expectant method is capable of saving in almost every instance the foot from amputation in patients under fifteen years of age, and also, he thinks, from excision.

OPENING AND DRAINAGE OF JOINTS.

John Morgan¹ urges the advantages of antiseptic precautions, and claims that operations which were formerly believed to be unjustifiable are now recognized as almost without danger. During the years from 1865 to 1876, inclusive, twelve cases of loose cartilage of the knee-joint were admitted at St. George's Hospital. Of these only five were operated on, and one died from suppuration. Larrey published one hundred and sixty-seven cases, with twenty-eight deaths from the direct operation, and thirty-nine indirect operations, with fifteen failures and five deaths. Mr. Morgan has collected eighteen cases where the knee-joint was opened antiseptically; all were successful.

Bouquet, in his *Maladies des Articulations*, speaking of operative measures in hydropsies of joints, states that suppuration necessarily follows an opening, citing four cases, three of which resulted in a stiff joint, and one necessitated amputation. In contrast to this Morgan quotes Mr. Lister's case of fracture of the patella, where the joint was incised, a drainage tube inserted, and the patella wired. The patient recovered in eight weeks so as to be able to walk, bending his knee and flexing his leg to an angle of forty-five degrees. Cases are cited of successful direct incision in acutely swollen joints.

THE HYSTERICAL ELEMENT IN ORTHOPÆDIC SURGERY.

Dr. Shaffer calls attention to the importance of the emotional factor in the course of many affections which come to the attention of the surgeon in orthopædic practice. This monograph has already been reviewed in the JOURNAL.

HALLUX VALGUS.

Dr. Blodgett² reports a case affecting both feet, operated upon by him successfully. No antiseptic precautions were found necessary, the wound healing by first intention. The section was made by a thin watch-spring saw.

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¹ St. George's Hospital Reports, vol. ix. 77-78.

² New York Medical Record, July 10, 1880.

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PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

HOT-WATER INJECTIONS IN POST-PARTUM HÆMORRHAGE.

NOVEMBER 8, 1879. DR. C. E. STEDMAN, referring to the fact that injections of hot water have been advocated for the relief of post partum hæmorrhage, said he wished to warn the society, from the records of his own experience, that the method is not to be relied upon. His patient, a young lady in her third confinement, very stout, had had a normal labor through the first stage. She lay upon her left side, and, contrary to his usual custom, Dr. Stedman could not follow down the uterus with the hand, on account of her great size, but hooked out the placenta with his fingers. Considerable hæmorrhage followed and went on from bad to worse, affecting the pulse and causing the patient to faint. The uterus was at once thoroughly emptied of clots. Ice carried into the uterine cavity was of no service. An injection of hot water (117° to 120° F.) was then made into the uterus, and, as no contraction followed, the injection was repeated, the tube being carried to the very fundus. There was no effect. A wad of cotton was next soaked in a dilution of the liquor ferri persulphatis, one part to four of water, and carried by the hand into the uterine cavity. Contraction immediately ensued, and there was no further hæmorrhage. The patient made a remarkably good recovery. Vaginal injections were used, but none intra-uterine. Dr. Stedman remarked that hot-water injections are of service in a large number of cases, but it would not do to rely upon them. He regretted that he did not try vinegar. In the case reported ether had been used, as in all but one of his cases of hæmorrhage, and subcutaneous injections of brandy and ergot had been made into the thighs. Dr. Peters, of Dorchester, had also reported failure with hot water.

DR. ABBOT said he had understood that the injections should be as hot as could be borne, at least 120° F.

DR. MINOT asked if any gentleman present had seen many cases of post-partum hæmorrhage. Setting aside cases of placenta prævia, he thought that death from it was extremely rare, and he could recollect but a single instance of such termination in his own practice. He thought the hæmorrhage tended to cease spontaneously, and that the effect of treatment in arresting it was overestimated.

DR. INGALLS said that a few years ago he had reported one case of post-partum hæmorrhage which resulted fatally. The after-birth came with the child, and withal a torrent of blood. In this case Dr. Arnold assisted, but the woman was practically dead in three minutes from the commencement of the hæmorrhage.

Dr. Ingalls stated that during the past year he had used water, hot as his own hands would cleverly bear, freely after large surgical operations as a means of arresting the flow of blood. It serves to glaze the surface previous to the application of the Lister dressing; and when applied very hot to the stump it will arrest the oozing. Dr. Ingalls added that he had used it in six or eight cases this year, but that he was unprepared to say as yet that it was superior to any other applica-

tion. Two per cent. of carbolic acid had been added to the hot water in his own cases.

DR. BOARDMAN exhibited a copper and zinc stem pessary which he had removed from the virgin uterus, and remarked that the incrustations of salts which had formed upon the rod had produced an endometritis, namely, a pathological condition, and, *pro tanto*, an objection to the use of the instrument. Dr. Boardman, in reply to remarks by Dr. Chadwick, said that the result was pathological, and such a result once started cannot always be controlled by arresting the cause. In the case reported the effect upon the catamenia appears to have been unsatisfactory, for although at the first period the flow continued for three days, there was a return to the former scanty condition in the next two periods.

DR. BIXBY stated that he had had some experience with galvanic pessaries, generally in young women whose menstruation had been very tardy. He had frequently removed these pessaries covered with a crust of salts. He had had excellent results, and had never noticed from this mode of treatment anything like acute or chronic endometritis. Dr. Bixby remarked that it was difficult to keep the pessary in place, even with the aid of a tampon. If the uterine malposition, if any exist, be first reduced, the stem will be more easily retained *in situ*. In a case where the patient habitually menstruated by the nose, and the cavity of the uterus was less than two inches deep, the patient was treated for several months by the stem pessary aided by electricity. The menstruation finally became normal and has remained so.

DR. BOARDMAN said that he wished it to be understood that he made no protest against the action of galvanism as such in the cases under consideration, but that he objected to the pathological effect of the incrustations.

DR. SINCLAIR said that he did not think the mere combination of copper and zinc amounted to much in the result, and when the pessary is made of copper alone the incrustations are avoided. The effect in amenorrhœa, he said, was, certainly very remarkable; sometimes even too severe a flow is excited, but he had never seen any harm to result from the use of the stem pessary in his own practice.

DR. BIXBY stated that in addition to the other means detailed he has used as adjuvants in such cases hot mustard foot-baths, mustard plasters on the inside of the thighs, vaginal injections of aq. ammoniæ fort. (a drachm to the pint), and also electricity; the treatment being carried on for four or five days previous to the expected menstruation.

FOLLICULAR VULVITIS AS A COMPLICATION OF PREGNANCY.

DR. DRAPER reported the case. The patient was a primipara, thirty years of age, and in the eighth month of pregnancy when first seen. Her first symptom was intolerable pruritus vulvæ; this was followed by a herpetic eruption upon the mucous surfaces of the vulva in patches, which gradually enlarged, ruptured, and made ulcerous, cup-shaped excavations. The patient suffered extreme discomfort. All sorts of remedies were tried without avail. With the approval of Dr. Sinclair, who saw the patient in consultation, iodoform was applied, with partial relief. Labor occurred two weeks in advance of term, under the care of another physician. The presentation was normal; the

child, which weighed ten pounds, was delivered, still, by forceps, the patient being etherized. Peritonitis declared itself twenty-four hours after the labor, and the patient died on the fourth day. The vulvitis had gradually disappeared after the birth of the child. An analysis of the urine made before labor gave negative results.

DR. RICHARDSON stated that he had seen a very similar case, which was traced to gonorrhoea in the husband.

DR. DRAPER replied that he was certain that no such cause existed in the case he had reported.

DR. RICHARDSON showed *Braun's new cephalotribe*. He also showed a case of *ectopia abdominalis*. The specimen was a five months' fetus, and the abdominal sac was unruptured. He alluded to the mistake which might occur if attempts were made to rupture the abdominal sac, the physician taking it to be the bag of waters.

DR. RICHARDSON reported a *fatal case of acute puerperal septicaemia*. The patient was a married woman in good physical but very poor mental condition. Deserted by her husband, she entered the Lying-In Hospital, and was delivered of her second child after a rapid and easy labor of only an hour and a half duration. Within twenty hours the temperature rose to 104° F. Vomiting set in and persisted, accompanied by tympanites and some abdominal pain, until her death, which occurred on the fourth day. At the autopsy there was found gangrene of both ovaries, a broken-down condition of the body of the uterus, and peritonitis.

A member remarked that the case reported by Dr. Richardson shows the influence of mind in the production of puerperal fever.

DR. RICHARDSON said that he was glad this point had been touched upon. In the Lying-In Hospital twenty-three out of twenty-six fatal cases of puerperal septicaemia were in single women with mental trouble.

DR. BIXBY stated that he had performed ovariectomy upon a woman who, while in possession of the tumor, had conceived and had a normal labor, the abdomen measuring at least thirty-six inches after the labor. The tumor had been pushed up by the pregnancy.

OFFENSIVE VAGINAL DISCHARGE.

DR. STEDMAN reported the case of a spinster, thirty to forty years of age, who was subject to an offensive discharge from the vagina, becoming more and more offensive towards menstruation. He had tried various means without avail, including the sponging out of the interior of the uterus with strong carbolic acid.

DR. LYMAN mentioned the case of an otherwise perfectly healthy woman in whom an offensive vaginal odor occurred habitually on the first and second days of menstruation.

DR. ABBOT suggested that a wash of chloral hydrate, one part to a hundred of water, might be of service, as it had been in the case of fetid feet.

DR. LYMAN stated that a strong solution of ammonia had been efficient in the case of fetid feet.

EPITHELIOMA OF VAGINA.

DR. LYMAN reported a case of epithelial disease occurring in an isolated position upon the middle of the posterior wall of the vagina, half as large as a turkey's egg, bleeding freely when meddled with, and separated from the rectum by a thin layer of mucous membrane

only. Dr. Lyman reported it only as being in an uncommon locality, the disease usually commencing in the cervix and extending thence to the vaginal walls.

DR. BIXBY said that he had seen a case of epithelioma of the posterior vaginal wall, of the size of half a dollar, and entirely confined to the mucous membrane. The growth was entirely removed, and the parts sutured together. The disease returned, and the patient died.

DR. SINCLAIR spoke of the use of a ring of copper wire covered with soft rubber, which, when twisted into the form of a Zwancke pessary, he found useful in a case of prolapsus uteri in which previous treatment had failed. His attention was directed to this way of making a large Zwancke pessary by Professor Erich, of Baltimore, who gave him one of the instruments for trial. The copper wire is one cm. in circumference, and the ring may range from ten to fourteen and a half cm. (four to five and a half inches). He regretted that he had not a specimen to show, but the ring and the plan may be seen at Messrs. Leach and Greene's.

PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

THIS society held its first meeting of the present year at the Medical Library Hall on the 21st of September, at two P. M. The number of members present was small, partly owing, no doubt, to the early date of the meeting. Dr. Robert Amory, the president of the society, occupied the chair. The society was favored by the presence of Dr. H. W. Williams, president of the state society.

After the usual business was transacted, Dr. Edward Mead, of Roxbury, read a paper on "The Management of the Insane; the Status of the American Method," of which the following is a brief summary:—

Management of the insane means more than treatment. The general practitioner has nothing authoritatively to do with the *control* of the insane patient; he prescribes medicine, but does little more. The psychiatrist has more to do; he is substantially the guardian of the insane patient. The agencies to be employed in treatment embrace a wide range of moral means beyond the needs of the sick person.

Fifty years ago there were many serious defects in the management of the insane, but though we have seen these remedied, and to-day have excellent insane hospitals, many people make as much complaint as if nothing had been done. When Dr. Brigham left the Hartford Retreat (more than thirty years ago) to take charge of the New York State Asylum, a pamphlet was published against him, illustrated by wood-cuts, in which he and his employees were caricatured in acts of brutality. Complaints usually come from uncured patients, whose brains are morbidly sensitive, discharged attendants, and disaffected friends of patients. That there is sometimes ground for suspecting wrong-doing cannot be denied. Hence it is not surprising that a want of confidence should be felt by persons only partially familiar with asylum management.

A superintendent should be possessed of the highest moral and scientific qualifications for his work. Sometimes men are appointed for political or personal considerations. In such cases there is no safeguard against

negligence, or the worst abuse, except that mean motive, *policy*. Dr. Ray has said, "Our progress in this branch of the healing art would have been much greater had not so many been appointed to the charge of hospitals whose merits consisted of everything rather than of high professional attainments."

Loss of confidence in asylums has also been occasioned by exaggerated statistics, amount of restraint employed, etc. Occasional irregularities have taken place in various institutions in this country, which cannot be excused, but the Massachusetts asylums, of which there are ten, public and private, are well conducted.

The belief has been expressed that superintendents of institutions are liable to find insanity where there is none, because of their supposed sharpness in the detection of symptoms which others overlook. On this account the legislature of Massachusetts has taken away from them the poor privilege of signing certificates of insanity. This is a curious metamorphosis of logic. The postulate is that the more a man knows of insanity the less trustworthy he is to declare an opinion. There is sufficient protection in the law without this enactment. The tendency of the new law is to lower rather than to raise the standard of physicians who will be called on to sign certificates. Superintendents are as moral and intellectual as other men, and their faithfulness to their duties should elevate them in the estimation of other men.

Non-restraint is faithfully adhered to as a principle in this country. In England it is claimed that they have gone further in this direction than we, but it must be remembered that there is a so-called American type of insanity. Abroad there is an obedience to authority, here a disposition on the part of the individual to be a law unto himself.

"The Association of Superintendents has been denounced as a close corporation, but according to my knowledge of its doings this is not true. Like any other organization, a politician or an adventurer is liable to get in, but taken as a body it is composed of men of fine minds and liberal attainments."

The treatment of the insane should combine all forms of work, instruction, or recreation which can be used separately or in combination. Any means should be adopted which may for the time withdraw the patient's thoughts from himself.

Dr. Henry A. Martin said, I have listened with interest and profit to Dr. Mead's paper. Although most of us have very little to do with the treatment of the dangerously insane, we must, both as physicians and human beings, feel a lively and anxious interest in the proper and humane treatment of this truly unfortunate class. Although I disapprove of that clause of the new law which, under severe penalties, deprives all in charge of asylums, whether public or private, of the power to sign certificates of insanity, both because it cuts off general practitioners and patients from aid and counsel, which, in doubtful cases, might often be extremely valuable, and because it seems to cast a stigma or imputation on a class of most worthy physicians; still, I do not believe that any mistakes have been made, or that sane people have been deprived of their liberty or been put in the slightest danger of such deprivation, because the physicians signing their certificates were not experts in insanity. I believe the whole matter of complaint of this sort to be a bugbear, without any foundation whatever in fact. Charges

against the cultivated men who, whether as superintending or assistant physicians, have care of the inmates of insane and other hospitals might and should generally, doubtless, be dismissed as mutterings of the "idle wind." When any real ground for such charges existed, it was hardly possible that it could long exist without discovery and remedy, as proved by a recent and notorious instance.

I know that many, very many keepers, nurses, and policemen have much to bear, much to irritate and exasperate them, and, in spite of all this, are humane and forbearing; but *all* are not so. Both in our hospitals and in our police force are men, and in the former women, too, irritable, quick, and hot-tempered, and therefore constitutionally unfit for such positions.

I fully believe that many, most, of the immediate attendants of the sick and insane are forbearing, patient, attentive, and merciful, but I am *sure* that *all* are not; and if at any time there should be but *one* exception it is reason enough — a thousand times more than enough — that efficient methods of detecting, and *not* punishing, but utterly getting rid of, him or her should exist and prevail.

"*Quis custodiet ipsos custodes?*" (Who will guard the guardians?) Are the very best means enforced to ferret out negligent, brutal, and cruel nurses and keepers? I do not know; perhaps so. It is, however, a popular suspicion that there is room for reform and improvement in this direction. I fully participate in this popular feeling and suspicion. When one thinks of the vast sum of physical and mental misery and humiliation that may result from the neglect, brutality, and cruelty of a single nurse or keeper, one cannot help feeling the most anxious solicitude that every keeper and nurse *shall* be exactly what such attendants *should* be. If necessary, elevate the calling; spend a few thousands of the very many now wasted in absurd, pompous, pretentious architectural adornment and magnificence, in increasing the salaries and raising the standard of attainment of nurses; offer inducements for the best instead of for the worst material; reward merit and fidelity; purge the class of all unworthiness; and, by that step alone, you will do much to elevate the profession of personal attendance on the sick and insane.

In conclusion, Mr. President, I hope that this discussion, however desultory, may lead to something tending to secure for our poor, suffering brethren the best possible care, not only from the physician, — that I believe they already have, — but from their nurses and keepers also. However learned and skillful the physician, however admirable and accurate his diagnosis and prescriptions, matters very little if those prescriptions are carelessly administered or totally neglected, and such maladministration and neglect are not only possible but extremely probable, nay certain, if nurses and keepers are unreliable in any way.

Dr. Hazelton remarked that under the new law the amount of labor performed by the physician was often greatly out of proportion to the maximum fee allowed for a certificate of insanity; and related a case where he had spent the entire day in performing the various duties required by the new law. After a patient has been examined and found to be insane, the next duty is to decide where to send the him.

Generally speaking, all patients require to be removed from home and sent to some hospital for treatment. In the case of insane minors, they can almost

always be treated at home with good results, if they are properly secluded. With adults, however, the rule is that they must at once be removed from home and home influences. Now of all the patients of the wealthy class that are usually sent to the large hospitals, at least one third can be more successfully treated in some private hospital, because they then become members of small families, and the physician has them more directly under his personal supervision. In the large hospitals, with a small medical staff, it is utterly impossible to give the requisite attention to all of the recent cases.

In regard to mechanical restraint, there is very little doubt that a maniacal patient will become quiet much sooner where such mechanical means are used as will thoroughly restrain his movements, without injury to his body, than where the attempt is made to control him by attendants. In the first case, he sees that it is useless to struggle, and soon becomes quiet; in the second case, the least relaxation of the hand of one of the attendants only stimulates him to continue his efforts to free himself from his supposed enemies. Dr. Hazleton related a case where a man treated by the non-restraint system grew worse every day, but became quiet in four days under the use of bed straps.

Dr. Dearing thought the subject of Dr. Mead's paper was not only interesting, but of much importance to the members of the society, and that the management of the insane in our asylums is reflected back upon the medical men who certify to their commitment.

In some institutions the mismanagement on the part of some attendants has been such as to make a bad impression upon the patients and friends, and in some cases has been so great as to excite in home friends and their community strong sympathy for the patients, and lead to severe censure of the physicians who filled the certificates. So that, as a matter of policy, the physician might be tempted to forego his duty, and decline to prepare committal papers. A case of this kind had recently occurred in his vicinity. In his judgment great care is needed in selecting attendants. He was of the opinion that generally the superintendents and their chief assistants were careful men, but thought any one who had been obliged to visit insane asylums must be satisfied that many of the attendants were unsuitable persons for their duties.

Dr. Cushing believed the new law to be an improvement on the old one. Certificates of insanity are sometimes given too readily, and need the criticism of competent authority. The new law does not constitute the judge of probate an expert on the question of insanity, but does give some guarantee that the men who sign the certificates are experts. We are in need of some proper place for detention of insane patients who are waiting examination. It is sometimes necessary to confine such persons for a considerable time before they can be legally committed, and at present we have only the various lock-ups in the city. These, especially the "tombs," are not fit places for the detention of the unconvicted sane, much less for the unfortunate insane. Dr. Cushing spoke of a patient who was confined in the tombs a day and a night, with the effect of making him much worse. He had known of several cases of death, the direct consequence of imprisonment in lock-ups in Norfolk County.

Dr. Channing spoke of the looseness of the laws regulating asylum commitments in some States, and

thought the recent new laws on this subject in Massachusetts a step in the right direction. He believed it unnecessary to debar insane-hospital superintendents from signing insanity certificates; the English law which prevents a physician from committing a patient to an insane institution in which he may be in any way interested he considered quite sufficient. Asylum physicians stand in the relation of family physicians to their patients, and certainly should not be put to the inconvenience of calling in outside physicians to testify to their insanity, when it becomes necessary to transfer them to some other hospital. If an asylum physician can pass judgment on a patient's sanity, why not also on his insanity? The former condition is often more difficult to determine than the latter, and the responsibility involves far more serious consideration.

Concerning the matter of abuse of patients, no doubt patients were sometimes abused by their attendants. There were three reasons to explain these unfortunate instances: First, the lack of sufficient supervision by the medical officers, owing to the small number of them in proportion to the patients. Second, the character of the superintendent and the moral influence emanating from him which pervades the whole management of the institution. And, third, the quality of the attendants themselves. A superintendent of a kind and amiable disposition will at once infuse a spirit of good feeling and sympathy throughout his whole asylum, and if with these qualities be combined good judgment and strength of will, he will select and drill attendants so that there can be almost no cause for complaint. If, on the other hand, attendants are chosen without discrimination, are not properly disciplined, and have the example of a morally weak or inefficient man before them, they soon become demoralized, and it is no cause for surprise if the patients are the sufferers.

Dr. Channing had inspected the cells at the tombs, to which many patients were sent before transferral to an asylum. He regarded them as entirely unfit for the detention of an insane and therefore diseased person. They were not properly ventilated; they were too small; they contained vermin; they were underground, and only received light and air from the room into which their doors opened. The keepers were men only, though female as well as male patients were liable to occupy these cells. He had known of one instance where a woman had stripped off all her clothing, and had to be dressed by the man on duty. The same woman was obliged to lose her hair, which was infested with vermin from the tombs. Some better place of detention is necessary, and Dr. Channing had already twice suggested the need of a special ward or building, on the City Hospital grounds, where persons could be sent for detention and observation. By so doing much trouble, expense, and injury to the patient might be avoided.

It was the feeling of the meeting that better care and accommodations should be provided for insane persons who were waiting commitment to a lunatic hospital or asylum, and the following motion was finally carried unanimously: *Resolved*, That in the opinion of this district society the present condition of the treatment of the insane, prior to their legal commitment to an insane asylum, deserves a very searching investigation, and the society would report the subject as worthy the consideration of the Massachusetts Medical Society, either in the corporate capacity, or by some competent committee to be appointed by its council.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.

REPORTED BY E. P. HURD, M. D., CORRESPONDING SECRETARY.

THE quarterly meeting of the Essex North District Medical Society was held in Haverhill, October 13th; Dr. John Crowell, president, in the chair. Resolutions were passed expressive of regret at the recent death of Dr. Jeremiah Spofford, of Groveland, for many years the oldest Fellow of the Essex North Society, whose ready tongue and pen had contributed so much to the usefulness of the society and to the interest of its meetings.

An interesting paper was read by Dr. J. C. Pennington, of Andover, on Reflex Symptoms of Irritation of the Genital Organs, of which the following is a brief abstract: Dr. L. A. Sayre, of New York, has within a few years, by lectures and publications, called the attention of the profession to the coincidence of spinal anemia, manifested by partial paralysis and want of co-ordination, and other nervous disturbances, with adherent and elongated prepuce. Several striking cases, reported by Dr. Sayre, were cited by the reader.

Dr. F. D. Otis, of New York, has repeatedly directed attention to the fact that obscure urinary as well as grave reflex disturbances often arise from a contracted meatus urinarius. Civiale has recognized this as a cause of neuralgia of the testicle, cystitis, orchitis, and gleet. Both Dr. Otis and Sir Henry Thompson have cured such cases by division of the meatus.

Stricture of the pendulous portion of the urethra often occurs as a consequence of gonorrhœa; this by reflex irritation causes spasm of the deeper urethral muscles, simulating stricture; after treatment by division or internal urethrotomy of the stricture near the meatus, the deeper stricture disappears.

Dr. Pennington related a few instances in his own practice where dilatation of the urethra by sounds and bougies had relieved patients of severe reflex troubles.

Dr. E. P. Hurd referred to several cases occurring under his own observation illustrative of the evils following phimosis with elongated and adherent foreskin, and read notes of a case published by him in the JOURNAL in January, 1877, where there was inco-ordination or ataxia of movement, with partial paralysis and convulsions, permanently cured by circumcision.

Dr. F. A. Howe, of Newburyport, spoke of two cases of chorea occurring among his patients, referred by him to irritation of the genitals: the one that of a boy, cured by circumcision; the other that of a girl, whose chorea seemed determined by irritation of the genitals by certain *postural attitudes*, which faulty habits, provocative of genital excitement, being broken up, the girl recovered.

Dr. Manley, of Lawrence, denied that phimosis in children was either very uncommon, or generally, when occurring, attended with serious results. In fact, phimosis with adherent prepuce, he said, was the normal and physiological condition the first year of infantile life; the gradual development of the penis after birth producing retraction and separation of the foreskin from the glans. This opinion was supported and corroborated by Dr. Roberts, of Lawrence. Dr. Pennington, of Andover, ridiculed this view, and affirmed the trustworthiness of the observations recorded by Dr. Sayre and others.

Dr. Garland, of Lawrence, related two cases of patients of his which bore a striking resemblance to some of those noted by Dr. Sayre; cured by circumcision.

Dr. Huse, of Georgetown, called attention to the fact that in his experience straight catheters enter the bladder more easily than curved, and quoted Dr. Bigelow as authority that in enlarged prostate a straight catheter goes in more easily than a curved. Might it not always be so?

Dr. Douglass, of Amesbury, referred to a remedy for chorea often prescribed by the late Dr. Perkins, of Newburyport: it was *cherry rum*, and had often been successful in the practice of Dr. Douglass, when other remedies had failed. A favorite mode of prescribing it by Dr. Perkins was to bruise and macerate the cherry stones — obtained from the cherry-rum cask — in *hot* (?) water, and direct the infusion to be taken freely during the day. This treatment seemed sometimes to be immediately beneficial. (It could not be from the sedative effects of hydrocyanic acid in the infusion, as this agent must have been dissipated in the heating.)

Dr. Roberts had seen as good results in this disease from the use of whisky as from any other remedy.

The president remarked that this, as well as other functional disorders, seemed sometimes to get well under almost any treatment, and even expectant treatment. Some of the cases cited as relieved of partial paralysis, etc., by removal of redundant prepuce might have been as much benefited by the *moral* effect of the operation as by the operation itself.

Recent Literature.

Management of Children. By AMIE M. HALE, M. D. Philadelphia: Presley Blakiston, 1012 Walnut Street. 1880.

This little book of about one hundred pages is addressed particularly to young mothers. The first half is concerned with the management of children in health, with special reference to their care immediately after birth, — dress, food, sleep, exercise, air, sunshine, and bathing. The advice here given is for the most part sensible, and has been carefully arranged in a readable and interesting manner.

The latter half of the book is devoted to the description of a variety of diseases to which children are peculiarly liable, with rules for their management. The main purposes of these chapters, as given by the writer, are "to teach the intelligent mother to discriminate between those dangerous diseases which require the best skill of the physician to conduct them to a safe issue and those light ailments which disappear spontaneously or with slight treatment."

This latter task which the writer has assigned herself, and which she has, without doubt, faithfully attempted to carry out, is a difficult one, and the question suggests itself if it is not one from which it is unreasonable to expect any practical good, owing to the necessary lack of preliminary training which such instruction, to be useful, presupposes. We cannot, for instance, see any advantage a young mother could derive from reading a description of the differential symptoms of true and false croup, or of ordinary sore throat, diphtheria, and the angina of scarlet fever. The writer wisely advises the mother, "if not able with a certainty to recognize the diphtheritic exudation from a common sore throat, to send for the doctor." It is certainly stating the case mildly to say that "true croup is not always easy to differentially

diagnose from diphtheria," and that "the former is always fatal if not early recognized and treated." Nor would an acquaintance with the descriptions of the differential symptoms of these diseases be ordinarily necessary to teach her that "the earlier symptoms should have excited alarm," and that "hoarseness growing worse at night and difficult breathing when the child is asleep should put the mother on her guard." The statement that "true croup is now considered a zymotic disease" would not be likely to convey any intelligible meaning.

Take again, further to illustrate our meaning, the instructions for the treatment of bronchitis. Is it likely to be of any use to the average mother to be told "not to stop a cough when indicating mucus or phlegm, but only so far to control it with opiates that it shall not become of itself a cause of irritation, and for this purpose opium, or some other sedative, in suitable doses, may be combined with an appropriate expectorant"?

These objections hold particularly good with reference to the employment of formulated prescriptions, several of which are given in the book, with directions how and when to use them.

A chapter devoted to Miscellaneous Diseases includes constipation; prolapsus of the rectum; nocturnal incontinence of urine; inflammation of the breasts; abdominal hernia; leucorrhœa; rickets. In the chapter following, under Accidents, are given directions what to do in cases of suffocation of the new-born; foreign bodies in the œsophagus, nose, windpipe, and ear; inflammation of the eyes; burns and scalds; bruises and wounds; sprains; chilblains; bleeding of the nose; and accidental poisoning. The direction, "if a child has been overdosed with paregoric or laudanum, send for the doctor," is a good one, but we fail to see why the same does not equally well apply in all cases of poisoning.

In the last chapter but one in the book there are given a large number of aphorisms, mostly self-evident propositions. The last one suggests a useful end to which art museums may contribute, and reads as follows:—

"The common people of Italy are remarkable for beauty of face and symmetry of form. This has been attributed to the pre-natal influence exercised upon the development of the child by the constant presence before the eyes of the mother of the pictures of the great masters and the noble sculptures of antiquity."

At the end of the book we find eight formulated prescriptions for ready use under as many different indications. The minuteness of the doses would satisfy the most skeptical, and there would be no objection to their employment on the score of safety. Such matters, however, we think, should be left entirely to the physician, and few mothers would be willing or able profitably to meddle with them.

While there is much that commends itself in these pages, we see no reasons to change our conviction that the class of books to which this belongs is poorly calculated to accomplish the objects for which such volumes are claimed to be written.

The Student's Guide to Diseases of the Eye. By EDWARD NETTLESHIP, F. R. C. S. Philadelphia: Henry C. Lea. 1880. Pp. 369.

"The aim of this little book is to supply students with the information they most need on diseases of the eye during their hospital course."

For the purpose intended and the modest size of the manual, it seems to us decidedly better than anything yet published in English. The style is concise and generally very clear; otherwise unavoidable repetitions are escaped by reference to other pages of the book. The subject is divided into three parts: I. Means of diagnosis; comprising leading symptoms, external examination of the eye, and examination of the eye by artificial light with use of the ophthalmoscope. II. Clinical division; the main part of the work, and containing an account of the various diseases, arranged according to the anatomical structures involved. III. A rather brief but important section on diseases of the eye in relation to general diseases.

This arrangement of material seems a very appropriate one for the class of readers for whom the book was written.

We find little to which to object. The only serious error we have noticed is on page 31, where it is stated that No. 1½ of Snellen's types at 18" "is seen under an angle of five minutes; that is, without effort of accommodation." This involves two mistakes. It implies, at least, that seeing an object under an angle of five minutes is the same thing as seeing it without accommodation, which is wholly wrong. And again, to see an object clearly at 18" (emmetropia being assumed, as it is in the instance quoted) demands a very considerable amount of accommodation. In the American addition there are quite a number of typographical errors, but they are seldom such as to impair the clearness of the author's meaning. For the general practitioner unfamiliar with diseases of the eye, as well as the student, the book is to be recommended.

A Manual of Minor Surgery and Bandaging. By CHRISTOPHER HEATH, F. R. C. S., Surgeon to University College Hospital, etc., etc. Sixth Edition, revised and enlarged, with one hundred and fifteen illustrations. Philadelphia: Lindsay and Blakiston. 1880. Pp. 342.

The best manual for the use of hospital internes, and young practitioners who have not had the advantages of hospital experiences, in print. Every house-officer should be familiar with its contents before entering upon his duties. In the preparation of this edition the work has been thoroughly revised to meet the demands of modern surgery, and fully sustains the well-earned reputation gained by the earlier editions. It would be advantageous in making the American reprint to substitute the customs of America in medico-legal cases and in the regulation of fees, since a rigid adherence to those of England would be likely to subject the claimant to untold annoyance.

— Dr. Skene, at a recent meeting of the New York Obstetrical Society, referred to the use of the root of the common slippery-elm for probes and dilators in gynecological cases. His attention had first been directed to their use by Dr. Tuckerman, of Ohio, who had employed them successfully. If a piece of the length desired, rounded at the end, the bark being left on, were dipped in warm water for a few minutes, its flexibility and mucilaginous covering would enable the operator to dilate the urethra or the cervical canal, or explore cavities, with more facility and less damage to the mucous membrane than with any dilator he had ever employed. — *New York Medical Record.*

Medical and Surgical Journal.

THURSDAY, OCTOBER 28, 1880.

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THE MANAGEMENT OF THE INSANE.

THE interesting report of the Proceedings of the Seventh Annual Conference of Charities and Corrections, held at Cleveland in June and July, 1880, which has recently come to our notice, contains some significant papers on the subject of the management of asylums for the insane, to which we would call our readers' attention.

To most persons, whether lay or medical, who have cared to interest themselves in the matter, it has long been very evident that reforms in the customary management of the insane were urgently needed. There is, however, good reason to believe that the necessity for such reforms has not even yet presented itself to the majority of boards of trustees and superintendents with sufficient force to insure the changes which must be made before this department of medicine can claim to have kept pace with others in the "advance along the whole line" which the past few years have witnessed.

All sides are abundantly willing to listen and be convinced, but nothing comes of it. Speaking plainly and to the point, there is no doubt that in certain important respects most of our asylums are far below the best of those of England and Germany; that sufficient pains is not taken to invite scientific criticism of their methods, and to bring their officers into close union with the body of the profession; that while, in fact, the study of insanity and the cure of the insane call for the highest general and special training, such training is not habitually made a necessary qualification for appointment either as assistant physician, or even as superintendent, in some of our best asylums; that the plan of abandoning mechanical restraint and allowing a wider liberty, so vitally important, as most authorities abroad believe, for the happiness and even for the cure of the insane, has, with rare though significant exceptions, not been tried with the thoroughness and under the conditions which foreign experience shows to be essential for its success.

For justification of these criticisms the reader is referred, amongst others, to occasional articles in the *JOURNAL*; to discussions in medical societies, of which one on this very subject appears in this number; to the State Board of Health reports; to the writings of Dr. Bucknill, of London; to a recent series of papers in the *Archives of Medicine*, published by Dr. E. C. Seguin, of New York; and to the report of the Conference of Charities, now before us.

When such criticisms are presented, the answer which is made — and it is the same which rises to the

lips of all of us when foreign visitors to our asylums call attention to these same too obvious facts — is that a more intelligent, zealous, and conscientious body of men than our superintendents and trustees is nowhere to be found; that the appointments are the result of long deliberation, and are the best which can be made, that non-restraint has been thoroughly studied, and is practiced so far as seems advisable, — less to be sure, than in Europe, but only because our insane are more violent than theirs and the attendants less numerous; that our patients are given many comforts and luxuries which are there wanting; that after all there is so little to be done, medicinally, in these cases that good sense and administrative ability are qualities which tell more than scientific knowledge in making a good superintendent.

The last statement is, to be sure, one rarely made in words, but, although unexpressed, it must certainly and very materially have had great weight with lay boards of trustees, who, whatever they may say and think to the contrary, are still secretly swayed by the old, strong belief, from which even physicians can hardly shake themselves quite free: that an insane person is one possessed with an evil spirit, whose case pathology can never unravel, — one who is to be treated with the utmost kindness indeed, but to be spoken about beneath the breath, like a friend in disgrace, and secluded until the demon is exorcised or takes it into his own head to depart.

To meet this unexpressed feeling we can only urge investigation still more thoroughly; spend, not a week or a month, but a year or two, in acquainting yourselves with the best German, English, and French authorities on this subject; and make yourselves, not superficially, but intimately, masters of the working of their asylum systems, and you will find that science is not so utterly incompetent to deal with this subject as is generally thought; and you will, moreover, grant that if it is to be handled at all there is no branch of medicine which calls for such wide and close scientific training, such thorough familiarity with all instruments for scientific research.

It may well be that common sense will still remain the most important qualification for a superintendent, but there is this difference between common sense and a scientific training: that whereas the former is a rare quality, and not always to be found even by long searching, the latter may usually be superadded at the cost of a few dollars and cents.

Even in Germany this has sometimes to be done. Thus, Dr. Flechsig, of Leipzig, until now assistant professor (we believe) in the Anatomical Institute, has recently been called to an asylum, with the opportunity of preparing himself by something like two years' special study before entering on his duties.

Is it more difficult to cure German than American insane? Or, in this matter, which the public has so much at heart, shall we yield the palm to them in attempting to do the best that can be done?

A community like ours, that spares no cost to increase the material comfort of its insane, would certainly never begrudge one or two thousand dollars to

secure for them first-rate medical care, and to insure that the experience won through the observation of their misfortunes should not be lost to the world through the lack of trained observers to record it, were the importance of these things but once authoritatively made known and widely understood.

An even more important requisite than an opportunity for preliminary study, as an inducement to men of first-rate scientific ability to assume the medical duties of an asylum, is that they should be insured a time and facilities for subsequent research.

It is hard to see how any one with a full appreciation of and love for scientific study could consent to take charge of an asylum with the knowledge that his time must be given, almost to the last moment, to routine hospital and commissariat duties, not to speak of the burden of an endless, almost routine correspondence.

As a matter of fact the contributions of American superintendents to the scientific study of diseases of the nervous system have been but small.

With regard to the question of the applicability of the non-restraint methods, under the conditions existing in this country, we consider this to have been definitely settled in the affirmative by the experience of Dr. J. C. Shaw, of King's County Asylum, at Brooklyn, N. Y., which was presented in a short and modest but highly interesting paper at the Cleveland Conference. Coming to the asylum some two years since, he found a large number of patients in restraint jackets, straps, and seclusion, but succeeded, by judicious management, and not without having to face obstacles and prejudices, in restricting the use of mechanical restraint, first to five patients, then in stopping it entirely; and finally he burnt all the old restraint apparatus of the place, which aggregated some three hundred sets. When a like course was adopted at the Charité in Berlin, by Professor Westphal (in 1856?), it was found necessary to turn away almost all the old attendants, and replace them by new ones not wedded to the old system. It is therefore the more creditable to Dr. Shaw that he accomplished the change without this, by simply shifting patients and nurses, so as to bring new faces together, at the same time enforcing a stringent discipline; and that, too with a proportion of attendants only about one fifth of that now employed in Berlin, namely, only one to fifteen patients.

Hand in hand with this reform the patients were given out-of-door employment to the utmost extent of the conveniences for so doing, which, indeed, were limited, and the result of the two measures together was more than satisfactory.

To make light of such an experience as this would be, for any one knowing Dr. Shaw's fidelity and conscientiousness as an observer, simply to shut the eyes to the truth. Restraint may, no doubt, be occasionally, perhaps very often, advisable and necessary, but to maintain in face of these facts that it cannot be safely dispensed with in America, as it has so often been in European asylums, is to assume a position which is no longer tenable.

We would quote in conclusion a single one of the resolutions adopted by the Cleveland Conference: "*Resolved*, that the conference recommends to boards of trustees of insane hospitals a careful consideration of the question whether the interests of the insane would not be promoted by the appointment of consulting medical boards in communities where such boards are practicable."

OBSOLESCENT SURGERY.

OUR latest English exchanges contain an account of another death from chloroform. This in itself is a disaster of so frequent occurrence that we should hardly feel called upon to notice it were it not that the surgeon's choice of an operative procedure for his patient taken together with his selection of an anæsthetic combine to make a picture of surgical practice which is now rapidly becoming obsolete. At the inquest the surgeon stated that the "deceased was suffering from stone in the bladder. It was necessary to remove the stone to make his life bearable, as he was suffering terrific pain on account of it, and was incapacitated from his work as long as it lasted. There were two operations by which this could be effected: one was by cutting and taking the stone out, and the other was by crushing the stone, an operation known as lithotomy. The operation of cutting was a dangerous one for men as old as deceased was, and for this and other causes witness determined upon using the lithotrite. It was found necessary to administer chloroform to the deceased, previous to which an examination was made of the heart, pulse, and lungs, the result being that witness thought him a safe subject for the administration of chloroform." It is hardly necessary for us to give the particulars of the circumstances attending the death. It could be but a reproduction of an oft-repeated tale. The jury found that deceased died "from the administration of chloroform and weakness of the heart; that the chloroform was administered with all due precaution, and that the operation was conducted in a skillful manner."

MEDICAL NOTES.

— Replications recently filed in Court of Common Pleas, No. 3, to answers submitted by the "Eclectic Medical College of Pennsylvania" and the "American University of Philadelphia," aver that the above corporations have forfeited their charters, because of, first, the conferring of degrees upon persons not possessing the qualifications such as are prescribed by their charters; second, the sale of diplomas; third, the granting of degrees of doctor of medicine, and antedating such diplomas in order to make it appear that the recipients had the right to practice medicine; and, fourth, the issuing of diplomas with forged signatures. After the replications were filed, counsel for both of the defendants confessed judgment of ouster in favor of the commonwealth, and filed as a part of the record a letter from Dr. Buchanan authorizing him to do so. — *Philadelphia Medical Times*.

— We have received the Physicians' Visiting List, for 1880, published by Lindsay and Blakiston. This is the thirtieth year of its publication. Its contents are familiar to most of our readers. Beside blanks for every possible kind of memorandum a busy doctor may wish to make, we find a posological table, poisons and antidotes, table for calculating the period of uterogestation, Marshall Hall's ready method in asphyxia, and a number of other items of useful information, among which we need hardly say is the — metric system.

— It is a fact useful to be noted, in the cause of higher education, that in the competitions for the hospitals — competitions in which the best men of all the colleges enter — those who have had a previous academic training almost uniformly come out ahead. Five sixths of the house-staffs on the large city hospitals are bachelors or masters of arts. In these days, when the practical value of a classical education is so often doubted, I for one am glad to furnish a little evidence in its favor. — *New York letter to Chicago Medical Journal and Examiner.*

— Paul Broca, who was a capital *raconteur*, says the *American Practitioner*, told the following anecdote of himself: He was in Seville, and wishing to be shaved he applied to a barber whom he chanced to know. After the conclusion of the operation the barber declined to accept any pay, on the ground that *confrères* should not accept fees of one another.

NEW YORK.

— The first meeting of the County Society after the summer recess was held on the 27th of September, when Dr. Albert H. Buck read a paper on fractures of the temporal bone.

— The first meeting of the Academy of Medicine was held October 7th. The corresponding secretary presented, on the part of the contributors, a portrait of the late Dr. H. B. Bulkley, who was president of the Academy during the years 1870 and 1871, and the paper of the evening, entitled *Some Facts in regard to heating the Air we breathe as affecting Health*, was by Francis V. White. At this meeting the following resolutions, preceded by an appropriate preamble, which were offered by Prof. Alfred C. Post, were unanimously adopted:—

Resolved, That this Academy believes that the establishment of the night medical service in the city of New York is a boon to the community, and that by its means much good will accrue to both patients and physicians, inasmuch as it places by the side of the suffering patient skilled medical attendance at the shortest notice, and on the other hand gives the assurance to the physician that his merited remuneration will be duly received.

Resolved, Believing the law to be a benefit, and recognizing the fact that it is due to the earnest and well-directed efforts of Dr. Henri Nachtel, a stranger among us, that we owe its establishment, we therefore desire to testify our appreciation, and to extend our cordial thanks for his disinterested zeal in accomplishing so much good for the welfare of the community, including the medical profession.

Resolved, That the above resolutions, signed by the president and secretary, be engrossed and forwarded to Dr. Nachtel in Paris.

Between the 5th of September, when the night medical service was put into operation, and the 30th of the month, twenty-five visits were made by fifteen physicians of the service, and of the patients visited three paid fees. At the last meeting of the board of health, Dr. W. A. Ewing, the executive officer of the service, reported as follows: "I have investigated the majority of these cases, and have found them, without exception, cases of sudden illness or emergencies occurring in the night-time among the poor, and there appears to be no attempt on the part of any one to take undue advantage of the charity." In his report Dr. Ewing mentioned the case of one poor woman who, in consequence of an unusually hard day's work, was suddenly taken in the night with premature labor. The husband returning from an unsuccessful search for a physician met a policeman, who sent him to the nearest station-house, where a physician of the night service was summoned just in time.

— Considerable dissatisfaction is felt at the contemplated reduction of ten per cent. in the salaries of medical men in the service of the board of health for the year 1881, as it is thought that the present rates of remuneration are already too low, while the force of inspectors is too small for the work expected of them.

— Two apparently genuine cases of hydrophobia have lately been reported: one from Elizabethport, New Jersey, and the other from Elmira, New York. About the same time two homœopathic practitioners of Jersey City claimed to have had a case also, but as the dog-bite from which the disease is alleged to have originated was received no less than eleven years ago, there appears to be some reasonable ground for questioning the correctness of the diagnosis in this instance.

— The trustees of the New York Orthopædic Dispensary and Hospital announce that Dr. Newton M. Shaffer, attending surgeon, will give a course of practical clinical instruction in orthopædic surgery at the institution on Friday afternoon, at two o'clock, from October 15th to December 17th inclusive, which will be free to members of the profession and medical students. The subjects treated will be as follows: ankle, knee, and hip joint disease; Pott's disease in the cervical, dorsal, and lumbar regions; club-foot, knock-knee, and bow-legs; and lateral curvature of the spine.

ST. LOUIS.

— Medical education in St. Louis is taking a forward step with the commencement of the scholastic year. The Missouri Medical College has advanced its fees to eighty dollars per term; the faculty encourage scholars to pursue a three years' course, but still give diplomas upon two years' work. The St. Louis Medical College now insists upon a three years' graded course, as was stated in a former issue of the JOURNAL, and the number of matriculates is greater this year than it was last.

Dr. John McDowell's death vacated the chair of

anatomy, which will be filled by Dr. H. H. Mudd, a graduate of the college, and for some years associated in practice with Dr. J. T. Hodgen; during the last eight years he has been demonstrator of anatomy in the college, which position he still holds.

—The St. Louis Medical Society, having taken a vacation during the warm weather, began its session again on the 18th of September, with renewed interest and increased attendance. At the meeting of September 25th Dr. Bernays reported a case of chronic tendosynovitis involving the flexor tendons of the fore-arm, which was mistaken for an abscess of the little finger, and was opened. When the nature of the case was discovered the lemon-seed bodies were pressed out, and the incision closed in the hope of getting union by first intention; this failed, and pyæmia set in, threatening the life of the patient. A number of abscesses formed, which were opened, and ultimately the patient recovered. At the time when he reported the case there was still some stiffness at the wrist, which yielding to passive motion.

—During the summer months the Medico-Chirurgical Society has continued its meetings, which have been interesting and well attended. The last regular paper read before the society was by Dr. G. Baumgarten on the pulse, and was illustrated by a number of sphygmographic tracings.

—In the City Hospital there have been a number of important changes during the last two or three months. Heretofore the blacks have been separated from the whites; but this has been done away with, and they are now scattered indiscriminately through the wards, making the classification solely a medical one; as far as we can state this arrangement is giving satisfaction. Another important change is the substitution of women for the male nurses, who have had charge of the men's wards, except in the venereal wards, where a male nurse is still employed.

The only place where we have been able to observe the workings of this plan has been among the eye patients, and there it seems to be doing well, — in some respects better than the former plan. In the surgical wards we must say that we should prefer to have male nurses. When the patients are men from off the streets, and the nurses are women who work for twenty dollars a month, we should think the intimate relations existing between patient and nurse would inevitably lead to bad results, both medical and moral.

Two reasons for this change have been given: one that women are naturally better nurses than men; another that as the city allows only twenty dollars a month for the wages of each nurse, and as that is not enough to obtain men of sufficient intelligence to act as nurses, it becomes necessary to employ women.

—Litholapaxy has been introduced into St. Louis by Dr. H. H. Mudd. Thus far he is the only one here who has practiced it. Two cases have been treated in this way, and both have resulted favorably.

The first operation was performed August 8, 1880, on a young man twenty-six years of age, who had suffered with symptoms of stone for about six months. After he had been anæsthetized, five ounces of warm

water were injected into the bladder; the stone was crushed with the ordinary lithotrite, and was evacuated by means of Bigelow's evacuator. The operation occupied about fifteen minutes; the stone weighed about a gram; no unpleasant symptoms followed. During the succeeding twenty-four hours the patient urinated only twice, and upon the second day was able to resume his work, and seems to have made a perfect recovery.

The second operation was performed September 26, 1880. The patient, John R., sixty-four years old, weighed two hundred pounds, and had suffered with symptoms of stone for about three months. Dr. David Prince, of Jacksonville, Ill., had found a stone in his bladder some days previous to the operation. At ten A. M. the patient was anæsthetized; by means of a bulb-syringe the bladder was filled with warm water, but even this produced bleeding from the urethra, and the blood continued to flow freely during the whole of the operation. Bigelow's evacuator was again used, and four and a half grams of fragments were removed in twenty-five minutes. It was necessary to refill the bladder and reintroduce the lithotrite twice in order to reduce the stone to fragments small enough to be removed.

On the following day there was a slight rigor, followed by a temperature of 103.5° F. He complained of some pain in the perinæum. The urine contained mucus, but no blood, and was passed but once every hour and a half. On the morning of the second day the temperature was normal, but in the afternoon it rose to 101.5° F. He was able to go four hours without passing water.

September 29th he was up, walking about the room and feeling comfortable.

October 1st he went home, there being still a little soreness about the rectum.

During the winter of 1879-80 Dr. Mudd made a number of experiments on the cadaver in regard to the best position for litholapaxy, and as a result of his experiments attaches much importance to elevating the pelvis while the stone is being crushed, and depressing the pelvis while the fragments are being evacuated.

Miscellany.

KANSAS CITY.

MR. EDITOR, — Kansas city is situated on the great bend of the Missouri River, two hundred and eighty miles west of St. Louis, and is the largest railroad centre between that city and the Pacific Ocean. Thirteen different lines of railroad give it the largest commercial importance in an area of country three or four times larger than New England. There are two hundred names of practitioners of medicine in the city directory, and of these, a large number come under the names "homœopathic," "magnetic," "vitalistic," and "eclectic." The surgical institutions are numerous and flourishing.

On a pleasant evening, the peripatetic practitioner may be seen selling his panaceas on the street corners and surrounded by an admiring crowd; occasionally

varying his performance in the healing art (when the crowd shows evidences of *ennui*) by singing sentimental ballads and accompanying himself on the guitar.

A large class of physicians exists, little known in the East, who might be named the "tramp" doctors. There is a small army of these men, traveling westward, who settle in town after town, following civilization, remaining a few weeks in one place, then moving on to pastures new, and finally reaching the Lead-villes, etc., of frontier life. Many of these are members of the regular profession, while others are mere pretenders. In the regular profession all grades of attainments and honor are represented, from the young practitioner who has recently been seated at the feet of the European Gamaliels of medicine, to the plain, unornate, but practically useful older men, who have been educated by necessity to the demands of their lives, and who represent the rapidly disappearing pioneer element. Among both classes, harmony and good-will exist. The young practitioner, fresh from the Eastern university, is received with unmistakable appreciation, but soon discovers that these unassuming men can teach him many a lesson in practical medicine. He finds that many of them are hard readers, logical thinkers, and are quite as well acquainted with the miscellaneous professional literature as he.

He sees modest men who do not hesitate to perform any operation in surgery, and who have good results. In short, he soon discovers that the wonderful progressiveness of the West can be seen as much in medicine as in commerce. So, the young graduate, who has made his *début* on the Western stage, thinking his Eastern education should give him an immediate position, may be somewhat disappointed at finding the competition more energetic than he had expected. But he soon learns to respect his professional brethren and their liberal, chivalrous competition.

Kansas city is now in a nascent state. Combinations are being formed. Society is crystallizing. Hospitals are about to be erected. The various questions of sanitation are being gradually approached. All the possibilities of growth and development are here, and are sufficient to excite the enthusiasm of the profession. We already have good city and county societies.

The code of ethics is rigidly enforced. The young College of Physicians and Surgeons is doing good work. It is a member of the American Medical College Association, and has some good teachers. Dr. Schaffler, the professor of general medicine, is well known as one of the translators of Ziemssen's Cyclo-pædia.

Dr. Tremaine, U. S. A., who occupies an enviable position as consulting surgeon throughout Kansas, has been secured to fill the chair of surgery for the ensuing winter. The college is to be congratulated on having associated with it a gentleman of such general and professional culture. The faculty aim at a high standard. The dissecting room has an abundance of material, and the large clinical advantages of our city are being wisely utilized. No apology is needed for the existence of this institution.

In closing this communication it may be well to offer a few suggestions to the young aspirants to Western medicine. These new cities, with their social and sanitary problems, present opportunities for noble work; opportunities worthy the enthusiasm and devotion of earnest men. In the deep-chested, brainy, Western-

educated young physician, the more polished action of New England stock is apt to find a dangerous rival. And, perhaps, the æsthetic refinements of New England education rather unfit one for the crude and practical necessities of Western life. But, before deciding so important a question, let the young graduate visit some of the Western cities; let him search for the meaning, for the soul, of Western life; let him study its professional aspects and phases, and then he may be able to decide wisely.

R. P. L.

TENDON LIGATURES.

MR. EDITOR, — A year ago last winter I read in No. 77 of *Braithwaite's Retrospect*, page 128, the article No. 43, on Tendon Ligatures, and noticed that Mr. Callender, the president of the Clinical Society, regretted that it was so hard to obtain tendons. Having seen whale's tendons while I was in a whaler in the Pacific, in 1845, I wrote to him that there was an unlimited supply of tendons in whales. March 24, 1879, he wrote to me as follows: "Dear Sir: Thanks for your suggestions respecting tendon ligatures, I will try to get some here, and have written to Aberdeen respecting them. If you come across any please send me a sample. I shall, I hope, be in Boston in September or October, and will call on you."

Fortunately I obtained the tendons of a whale killed at Provincetown at that time, and sent him some. May 20th he answered: "I am much obliged to you, Mr. Gilman, for so promptly and kindly obtaining for me the whale's tendons. I have used some of the fibres for arteries, and they will, I think, answer well, having more endurance than the catgut. Of course further experience is necessary," etc. I gave some of the tendons to Dr. Robert White at the time, and showed him the letters. I had a business acquaintance with Dr. Cowles, of the City Hospital, so I took some to the hospital, but found that Dr. Rowe was in his place. I therefore left them with him, and called afterwards to see what he thought of them. He said that he gave them to his surgeons, but they had not used any, and did not think there was any need of the article. This was more than a year ago, and I have not been there since, so that I don't know that any have been used. I inquired of Messrs. Codman & Shurtleff's whether they could not be made up as catgut ligatures are, so they could be put upon the market, but could not find any one who could do so. On learning that whalers had beaten the fibres soft and twisted them into ropes, I suggested that they might be spun like silk. But knowing that the material was so plenty and cheap, and that it was not necessary to prepare it in any way, but to simply strip it with the fingers and select such pieces for use as would be suitable for the occasion, I concluded to do nothing about it. My rebuff at the City Hospital discouraged me, and it was time and money out. In the mean time I was waiting to see Mr. Callender; but of course you are aware that he was taken sick in Philadelphia, and died on his way home on the steamship *Gallia*, on the 20th of last October, and I never did anything more about it. But finally, having some curiosity as to whether or not he had said anything to the Clinical Society concerning the tendons, I wrote to the new president of that society about three weeks ago. Now had I known that any one else had been using the tendons I should have hesitated

before doing so. I think it quite natural for some one in Japan to think of whale's tendons after the Melbourne surgeon (Dr. Girdlestone) had used kangaroo tendons; for when I was in the Pacific I saw a coat made by the natives of Kamschatka of whale's intestines, sewed with the tendons, and this use of the tendons was probably well known in Japan. Still I think I was the first to suggest the use of whale's tendons for surgical purposes, although it is possible that Dr. Le-laud, of Tokio, might have seen the *Lancet* of February, 1878, before I read the article in the *Retrospect*. Still, if he did see it before I did, I should think the fact would have reached you earlier.

Mr. Callender seemed so well pleased that I supposed he would make mention of it before the Clinical Society, at some of its meetings. This was the height of my ambition, so I wrote him that I should do nothing about the matter till I saw him, intending afterward to follow his advice. After his death I thought of taking some of the tendons to Dr. Bigelow, but neglected to do so, and have thus lost the opportunity of first calling your attention to the matter. Respectfully yours,

J. T. GILMAN.

Boston, October 1, 1880.

7 QUEEN ANNE STREET, May 20, 1879.

I am much obliged to you, Mr. Gilman, for so promptly and kindly obtaining for me the whale tendons. I have tried some of the fibres for sutures, and they will, I think, answer well, having more endurance than the catgut. Of course further experience is necessary. No doubt Dr. Bigelow would give the material a trial. It will be necessary, if you care to go into the matter, to get some practiced man to split the fibres into fine threads, and when split, and roughness or angularity taken off, they should be kept in carbolized oil, just as the catgut is. If you find it worth while to send any over here I should advise you to do so through Kröhne and Seinman, of Dike Street, Manchester Square, or through Arnold & Son, St. Bartholomew's Hospital. I am yours faithfully,

JOSEPH CALLENDER.

RODENT ULCER; LIGATURE OF PAROTID ARTERY, ETC.

MR. EDITOR, — In the *JOURNAL* bearing date September 16, 1880, which I have just seen, I find a most extraordinary attack upon myself by Dr. Michel, of this city.

I regret to refer again to a subject of such little interest, but the attack is so unjust and uncalled for that in justice to myself I deem it necessary to make a true statement of the case.

The patient was admitted to the Marine Hospital ward at his own request, and his previous history was obtained from himself and the resident physician of the hospital. I was informed that he had taken very little medicine, and *no iodide of potassium at all*. That the ulcer had by no means healed is proved by the dimensions given in my article on the subject, and which were taken personally. The case was not published until nearly eight months after the patient entered the marine ward, during which period Dr. Michel had ample time to publish the case if he desired. Moreover, the resident physician of the hospital, at my request, saw Dr. Michel and asked him for any notes he might have of the case, and he informed him that he

had none; this does not look as if he ever intended to publish the case at all. The statement that remedies are impotent in this disease is, to say the least, *old fashioned*, it being well known that even epithelioma has been arrested by iodide of potassium.

Again, the statement that the marine ward rarely contains over five or six patients is grossly incorrect, as the books show an average of at least twenty. In conclusion, I am quite willing to leave to those of the profession who know us both the determination as to whom the term ethical obliquity best applies.

Very respectfully, FAIRFAX IRWIN.
CHARLESTON, S. C.

BOSTON DISPENSARY.

THE following are the statistics of this institution for the year ending September 30, 1880. The number of new patients treated at the central office is 18,331, classified as follows:—

MEDICAL DEPARTMENT.				
	Men.	Women.	Children.	Total.
First quarter	812	1377	981	3170
Second quarter	902	2226	982	4110
Third quarter	760	1568	873	3201
Fourth quarter	682	1142	798	2622
Total	3156	6313	3634	13,103

SURGICAL DEPARTMENT.				
	Men.	Women.	Children.	Total.
First quarter	367	192	92	651
Second quarter	339	148	98	585
Third quarter	322	183	97	602
Fourth quarter	333	195	135	663
Total	1361	718	422	2501

DENTAL DEPARTMENT.				
	Men.	Women.	Children.	Total.
First quarter	100	162	183	445
Second quarter	111	153	199	463
Third quarter	79	139	200	408
Fourth quarter	57	112	137	306
Total	347	556	719	1622

SKIN DEPARTMENT.				
	Men.	Women.	Children.	Total.
First quarter	109	74	50	233
Second quarter	144	68	51	263
Third quarter	113	114	65	292
Fourth quarter	162	71	45	278
Total	528	327	211	1066

DEPARTMENT FOR DISEASES OF THE NERVOUS SYSTEM.				
	Men.	Women.	Children.	Total.
First quarter	8	9	1	18
Second quarter	10	1	0	11
Third quarter	4	1	0	5
Fourth quarter	2	1	1	4
Total	24	12	2	38

The number of visits made by patients, old and new, at the central office, 38,109, classified as follows:—

	Medical.	Surgical.	Total.
First quarter	9118	1688	10,806
Second quarter	8842	1735	10,577
Third quarter	7606	1803	9409
Fourth quarter	5598	1719	7317
Total	31,164	6945	38,109

The number of new patients treated in the districts is 13,647, classified as follows:—

	Men.	Women.	Children.	Total.
First quarter	544	1304	1716	3564
Second quarter	701	1438	1986	4125
Third quarter	504	1091	1200	2795
Fourth quarter	495	1163	1505	3163
Total	2244	4996	6407	13,647

The results of treatment in the districts are as follows :—

Discharged cured or relieved	12,682
Sent to hospitals or removed from the districts	543
Died	444
Remaining under treatment	83
	13,752
Remaining under treatment at last annual report	105
	13,647
Number of new patients treated at the central office	18,331
Total number of new patients treated at the central office and in the districts	31,978
Number of cases of midwifery attended during the year	186
Number of cases of midwifery attended since July, 1858	3,437
Whole number of patients since October, 1796	762,094
Whole number of patients since July, 1856	643,292
Average daily attendance at the central office during the year	124
Largest number present any one day, November 10th	263
Smallest number present any one day, January 13th	32
Number of recipes put up at the central office during the year	54,808
Number of house recipes	37,600
Number of district recipes	17,208
Largest number put up in one day, November 10th	390

Smallest number put up in one day, July 3d	61
Daily average	183

Surgeons: Thomas Waterman, M. D., Charles E. Inches, M. D., Edward H. Bradford, M. D., John F. Bush, M. D.
Physicians: Robert Disbrow, M. D., Reginald H. Fitz, M. D., Josiah L. Hale, M. D., William H. Baker, M. D., Joseph P. Oliver, M. D., Robert M. Lawrence, M. D., John Dixwell, M. D., Francis H. Davenport, M. D., Abner Post, M. D., Thomas M. Rotch, M. D., Maurice H. Richardson, M. D., Arthur T. Cabot, M. D., Claudius M. Jones, M. D., William F. Whitney, M. D., Henry C. Haven, M. D., Charles M. Green, M. D.

DEPARTMENT FOR DISEASES OF THE NERVOUS SYSTEM.

Physicians: Frederick W. Vogel, M. D., Charles F. Folsom, M. D.

DEPARTMENT FOR DISEASES OF THE SKIN.

Physician: Francis B. Greenough, M. D.

DENTAL DEPARTMENT.

Dentist: James E. Riley.

District Physicians: No. 1, George E. Copeland, M. D. No. 2, Frank H. Hooper, M. D. No. 3, William W. Gannett, M. D. No. 4, Harold Williams, M. D. No. 5, Henry W. Broughton, M. D. No. 6, Francis H. Williams, M. D. No. 7, Charles P. Bancroft, M. D. No. 8, James J. Minot, M. D. No. 9, John W. Elliot.

Frank H. Clark, apothecary; John F. MacLauchlan, assistant apothecary; Arthur H. Dupee, second assistant apothecary.

WILLIAM H. H. HASTINGS, M. D., superintendent.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 16, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Typhoid Fever.
New York.....	1,209,561	609	252	27.75	12.64	11.33	8.54	1.30
Philadelphia.....	901,380	284	87	—	3.17	3.87	—	3.87
Brooklyn.....	564,400	—	—	—	—	—	—	—
Chicago.....	503,298	193	93	43.00	24.87	7.25	7.77	4.66
St. Louis.....	—	115	38	26.09	6.09	3.48	9.57	3.48
Baltimore.....	393,796	127	52	26.77	11.02	1.58	—	3.15
Boston.....	363,938	159	72	25.78	10.69	8.18	8.81	3.14
Cincinnati.....	280,000	—	—	—	—	—	—	—
New Orleans.....	210,000	96	31	25.00	11.46	2.08	7.29	2.08
District of Columbia.....	180,000	—	—	—	—	—	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	911	32	28.57	13.19	6.59	1.10	2.20
Buffalo.....	155,159	59	21	33.90	8.47	3.39	1.69	10.17
Milwaukee.....	127,000	38	25	21.05	5.26	5.26	2.63	5.26
Providence.....	104,862	36	8	22.22	11.11	13.89	—	11.11
New Haven.....	63,000	19	8	42.11	21.05	15.79	15.79	—
Charleston.....	57,000	35	12	5.71	—	2.86	—	2.86
Nashville.....	43,543	15	7	33.33	—	—	13.33	13.33
Lowell.....	59,340	20	11	35.00	10.00	10.00	10.00	5.00
Worcester.....	58,040	18	11	38.89	—	16.67	27.78	5.56
Cambridge.....	52,860	24	12	29.17	20.83	8.33	4.17	—
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	23	7	8.70	4.35	4.35	—	4.35
Lynn.....	38,376	13	5	38.46	7.69	7.69	15.38	15.38
Springfield.....	33,536	12	3	—	—	—	—	—
Salem.....	27,347	12	4	41.67	—	—	8.33	16.67
New Bedford.....	27,268	9	1	11.11	—	—	—	11.11
Somerville.....	24,964	7	2	71.43	14.28	28.57	28.57	28.57
Holyoke.....	21,961	10	3	30.00	—	30.00	30.00	—
Chelsea.....	21,780	13	7	30.77	15.39	—	7.69	7.69
Taunton.....	21,145	7	—	—	—	—	—	—
Gloucester.....	19,288	4	2	—	—	—	—	—
Haverhill.....	18,478	5	3	20.00	20.00	20.00	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	5	2	40.00	20.00	—	20.00	—
Fitchburg.....	12,270	3	—	66.67	33.33	—	33.33	—
Nineteen Massachusetts towns....	149,017	63	17	22.22	9.52	7.94	7.94	1.59

¹ Twenty-nine of these deaths were the result of a railroad accident.

Deaths reported 2124 (no returns from Brooklyn, Cincinnati, or District of Columbia); 828 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 563, consumption 320, diphtheria and croup 220, lung diseases 143, diarrhoeal diseases 131, typhoid fever 72, scarlet fever 50, malarial fevers 38, small-pox 17, whooping-cough 16, cerebro-spinal meningitis 11, measles two, typhus fever two, erysipelas one. From scarlet fever, New York 11, Pittsburgh 10, Baltimore eight, Chicago seven, Philadelphia four, Buffalo and Milwaukee three, St. Louis, Boston, Worcester, and Cambridge one. From malarial fevers, New York 12, New Orleans 11, St. Louis five, Buffalo four, Chicago and Baltimore two, New Haven and Charleston one. From small-pox, Philadelphia 13, Salem two, New York and Boston one. From whooping-cough, Baltimore four, New York and Boston three, Philadelphia, Chicago, St. Louis, Pittsburgh, Lowell, and Bridgewater one. From cerebro-spinal meningitis, New York five, Philadelphia, Chicago, St. Louis, Baltimore, New Orleans, and Quincy one. From measles, Philadelphia and Lowell one. From typhus fever, Baltimore and Nashville one. From erysipelas, Buffalo one.

Forty-three cases of diphtheria, 10 of scarlet fever, and one of small-pox were reported in Boston; diphtheria 17, scarlet fever 14, in Milwaukee; scarlet fever eight, diphtheria five, typhoid fever, one, in Providence; diphtheria 15, scarlet fever seven, in Cambridge; scarlet fever 12, diphtheria four, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,002,146 (population of the State 1,783,812), the total death-rate for the week was 21.23, against 22.35 and 21.49 for the previous two weeks.

For the week ending September 25th, in 149 German cities and towns, with an estimated population of 7,731,690, the death-rate was 25.5. Deaths reported 5560; 2158 under five; pulmonary consumption 429, acute diseases of the respiratory organs 188, diphtheria and croup 110, scarlet fever 99, typhoid fever 85, whooping-cough 67, measles and röteln 30, puerperal fever 10, small-pox (Königsberg, Berlin) two, typhus fever (Hanover) one. The death-rates ranged from 14.6 in Karlsruhe to 41.2 in Aachen; Königsberg 31.2; Breslau 23.4; Munich 24.3; Dresden 24.8; Berlin 29.4; Leipzig 24.8; Hamburg 23.7; Hanover 19.4; Bremen 15.3; Cologne 30.1; Frankfurt 16; Strasburg 22.1.

For the week ending October 2d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.3. Deaths reported 3060; diarrhoea 399, acute diseases of the respiratory organs 199, scarlet fever 108, fever 57 whooping-cough 50, measles 24, diphtheria 16, small-pox (London two, Liverpool) three. The death-rates ranged from 13 in Plymouth to 32 in Sunderland; Bristol 17; Birmingham 18; Leeds 24; Manchester 25; Liverpool 28. In Edinburgh 22; Glasgow 18; Dublin 36.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 36 deaths from diarrhoeal diseases, typhoid fever 10, acute diseases of the respiratory organs five, whooping-cough three, scarlet fever one, measles one, small-pox one. The death-rates of the principal cities were: Geneva 23.6; Zurich 21; Basle 26.5; Berne 23.3.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in Inches.	
1880.																				
Oct. 10	30.292	54	66	46	85	75	93	84	0	E	0	0	8	0	C	C	C	—	—	
" 11	30.204	61	75	51	93	50	88	77	SW	S	S	4	10	8	G	F	C	—	—	
" 12	29.978	60	80	49	94	46	54	65	SW	W	NW	9	17	14	O	F	C	—	.23	
" 13	30.219	47	57	40	57	22	62	47	NW	NW	NW	12	19	14	C	C	C	—	—	
" 14	30.129	54	70	37	64	23	49	45	W	SW	W	11	3	6	C	C	C	—	—	
" 15	29.919	57	71	45	84	45	70	66	W	W	W	4	3	5	F	F	F	—	—	
" 16	29.893	61	73	50	86	64	89	80	0	0	S	0	0	7	H	O	O	—	—	
Week.	30.091	56	80	37					SW	W	NW							1.25	.23	

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 16, 1880, TO OCTOBER 22, 1880.

MATTHEWS, W. C., captain and assistant surgeon. His assignment to duty at cantonment on Uncompahgre River, Colo., revoked, and he is assigned to duty at Fort Wingate, New Mexico. S. O. 229, Department of the Missouri, October 16, 1880.

TORNEY, G. H., captain and assistant surgeon. When relieved by Assistant Surgeon Matthews, to proceed to Fort Lyon, Colo., and report to the post commander for duty. S. O. 229, C. S., Department of Missouri.

SHANNON, W. C., captain and assistant surgeon. Granted leave of absence for six months. S. O. 220, A. G. O., October 14, 1880.

GIBSON, R. J., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Leavenworth and assigned to duty at the cantonment on Uncompahgre River, Colo. S. O. 229, C. S., Department of Missouri.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The stated meeting will be held at the hall, 19 Boylston Place, on Saturday evening, October 30th, at seven and a half o'clock. The following paper will be read: Dr. T. B. Curtis, The Significance of Frequent Micturition.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion. Supper at nine o'clock.

H. C. HAYEN, M. D., Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held on Monday evening next, November 1st, at eight o'clock, in the hall of the Medical Library Association. Reader, Dr. Dwight. Subject, The Disappearance of Tumors. Semi-annual election of members.

A. T. CABOT, Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Medical Library rooms, 19 Boylston Place, on the first Thursday of November, at 10.30 A. M. The profession are invited.

HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Annual Report of the Infirmary for Hemorrhoids, Fistula, and other Diseases of the Rectum. Incorporated 1879. Dispensary Building, No. 304 East Broadway, New York.

A Contribution to a Knowledge of Fracture of the Rim of the Acetabulum, based on the Reports of Twenty-Seven Cases and Experiments on the Cadaver. By Nicholas Senn, M. D. (Reprint.)

The Ocean as a Health Resort. A Handbook of Practical Information as to Sea Voyages, for the Use of Tourists and Invalids. By William S. Wilson, M. R. C. S. E. With a Chart showing the Ocean Routes and illustrating the Physical Geography of the Sea. Philadelphia: Presley Blakiston. 1880.

La Syphilis, son Histoire et son Traitement (Méthode Anglaise). Par le Dr. James Tartenson. Deuxième Edition. Paris: Baillière et Fils. 1880.

Original Articles.

HIP-JOINT DISEASE; DEATH IN EARLY STAGE FROM TUBERCULAR MENINGITIS.

BY DE F. WILLARD, M. D.

Lecturer on Orthopaedic Surgery, University of Pennsylvania.

MICROSCOPICAL APPEARANCES, WITH CUTS.

BY E. O. SHAKESPEARE, M. D.

Lecturer on Refraction and Operative Ophthalmic Surgery, University of Pennsylvania; Pathologist to the Philadelphia Hospital.

PATHOLOGICAL specimens of morbus coxarius in its earliest stages must ever, from the very nature of the disease, be extremely rare, and the marked ignorance of the true changes which occur at this early period is evident to all readers, not only of the ordinary textbooks, but even of works devoted to pathology.

After diligent search, the specimens described in the following report have been found to be absolutely unique, presenting a stage of disease antecedent even to that of the descriptions of the initial lesion by Cornil and Ranvier.

They are therefore placed on record in this journal, that others may use their very best endeavors to secure post-mortem examinations in all cases possible, and thus add to our limited knowledge upon this subject.

The microscopical work has been, in this case, carefully done, and while it is upon one specimen only, yet in the absence of other investigations at this period of the disease may be accepted as an accurate portraiture of the changes then taking place.

History from case-book: A. B., five years of age, one of three children, all of whom are living, presents himself at the Orthopaedic Clinic of the University of Pennsylvania, November 12, 1877. His father is in good health; the mother pale and thin, but apparently healthy. Her mother died of phthisis, and one sister of some wasting disease during infancy. The child is pale and anæmic, but has been considered healthy. The parents are poor, and the hygienic surroundings bad.

One year ago, without any special known injury, the mother of the patient detected a slight lameness, but upon taking him to a dispensary for the treatment of deformities was, after several visits, informed that all inequality in the child's gait was simply due to "a habit which he had contracted." Reassured by this, the child was allowed to run about, and while suffering no pain, yet invariably at night complained of a sense of weariness about the hip, and a restlessness of the limb was noticed after retiring, symptoms which, I would remark in passing, are the very earliest indications of inflammation of this joint, antedating rigidity of the muscles, pain, or lameness. The lameness and discomfort have steadily increased, and the latter now amounts to a positive pain.

Present condition (child naked): walks with a decided limp, carrying the left limb with the stiff, awkward movement so common in hip disease; evidencing a lateral pelvic advancement at each step instead of a normal leg-swing. Weight of body thrown on sound side as soon as erect posture is attained, standing "at ease," thus bringing the entire strain on the uninjured member, upon that non-elastic tendon or portion of fascia lata (so admirably described by Allis) which stretches from the crest of the ilium over the trochanter major down the thigh and below the knee. The leg is flexed upon the thigh, the latter upon the pelvis, the toes are everted, while the limb is abducted

and apparently elongated, positions assumed by the member partially for comfort and partially from the obliquity of the pelvis, and therefore not necessarily indicating joint effusion.¹ Rigidity of the surrounding muscles is marked; the right thigh can be brought up against the lower ribs, and extended until the popliteal space touches the hard settee, without in any way altering the position of the pelvis or spine; but when the attempt is made to perform either of these motions, or to abduct, adduct, or rotate the left limb, it is at once evident that the pelvis follows the femur wherever it may be moved. This precautionary fixation of the muscles is an excellent example of "joint sense," and forms a prominent indication in the direction of treatment. The left nato-femoral crease is shortened; the buttock is softened, flattened, and fades off upon the posterior aspect of the thigh without any line of junction between the two, showing a wasting of both gluteal and thigh muscles, as well as a lessened projection of the tuber ischii.

Pressure on the trochanter, knee, or heel gives discomfort but no actual pain at the hip; there is more wincing when the head of the bone is pushed against the inner side of the acetabulum than when the upper, lower, or outer surfaces are impinged upon, — presumptive evidence that the round ligament is the centre of the disease.

There is no decided tumefaction or reddening about the joint, but slight condensation of the surrounding tissues is plainly palpable, especially when the posterior part is felt through the flabby buttock.

With this collection of symptoms, diagnosis was of course positive.

Four days later the child was put to bed, extension applied by weight and cord, and the windows of the room so fastened that they could never be shut, direction being given that all necessary warmth should be supplied by extra clothing. When this precaution is taken, I have never seen injury to any person's health from confinement to bed; in fact, in the vast majority of cases the relief is so great that improvement of the general condition commences at once. I have since modified my treatment in certain cases where the inflammation is slight, but in the acute painful cases I am convinced that this method, together with fixation, secures more absolute rest and greater comfort than can be gained by any other plan, especially when the patient is an active child, who when upon his feet would manage to receive at least half a dozen blows daily, even though he were incased in a solid sheet-iron dressing.

The present case proved no exception to the general rule in regard to patients thus confined, and he continued steadily gaining in every particular, growing fat and hearty under iron and cod-liver oil.

Six weeks later there was no pain or discomfort of any kind; no induration could be felt about the joint; and flexion, extension, abduction, and adduction could be performed to a considerable extent without any pain.

In January he commenced to complain of headache; vomiting suddenly set in, and continued persistently for three days. The pain in the head became of the most intense and excruciating character, causing piercing shrieks from the child at each onset; obstinate constipation was present; the characteristic facies, stupor, slow pulse, convulsions, and coma of tuberculous meningitis followed in rapid succession, with death upon the sixth day after the vomiting commenced, and two months after the child was first examined.

¹ Kolaczek, *Monthly Abstr.*, January, 1879, page 35.

Realizing that there was here a most valuable opportunity for securing a rare specimen, I made every effort to obtain a complete post mortem, but after using my best endeavors, I was unable to gain consent except for an examination of the hip. Possession, however, was fortunately gained of the head of the femur and entire acetabulum.

FIG. 1.



Acetabulum and head of femur, showing discolored spots upon latter.

The movements of the joint were somewhat limited, and slight roughness was evident. There was not more than ten drops of effusion, but the synovial membrane was everywhere congested and softened, and at the acetabular attachment of the ligamentum teres were decided evidences of inflammation and softening of tissues. Upon the head of the femur, on its posterior upper face, was a discolored patch, possibly caused by post-mortem contact against the acetabulum, although there was no corresponding spot in that cavity, and it had more the appearance of redness situated beneath the articular cartilage.

The capsule was perfect, the round ligament intact, and while the membrane covering it was more reddened and softened than at any other part, yet there were no positive signs of ulceration to the naked eye; in fact at no place in the joint were there any evidences other than those of early inflammation.

A careful and elaborate study of the minute appearances was made by Dr. Shakespeare, of Philadelphia.

MICROSCOPIC EXAMINATION BY DR. E. O. SHAKESPEARE.

"The acetabulum, head, and neck of the femur, ligamentum teres, and synovial membrane from the case of hip-joint disease referred to by Dr. Willard were placed in my hands for microscopic examination.

"After decalcification of the hard parts and hardening of the soft tissues, by means of picric acid, nitric acid, and alcohol, the structures of the joint were so divided that the section cut in half the acetabulum and the head of the femur, and at the same time split longitudinally the ligamentum teres.

"To the naked eye the cut surface thus obtained of the cartilages and bone presented no appearance markedly abnormal. The cartilages were entire, and the bone did not seem to contain caseous or other visible nodules. The line of ossification, at the junction of the epiphyseal cartilaginous head of the femur with the bony neck was nearly straight and of natural width. In the central portion of the cartilaginous head a considerable area of primary ossification could be readily seen. The curved line of section of the spherical surface of the ar-

ticular cartilage was, apparently, unbroken by superficial erosion of the articular surface. A slight mottling of the cartilage of the head of the femur could be made out when the articular surface was viewed *en face*. An inspection of the cartilage of the acetabulum gave to the naked eye no positive results. The ligamentum teres and the synovial membrane were evidently thickened and softened. No granulations were to be seen in them, and no visible suggestion of the presence of miliary or confluent tubercles could be recognized therein.

"A careful study of thin sections of the various tissues entering into the diseased joint afforded the following results:—

"A. Line of ossification at the junction of the head of the femur with the neck:

"Nothing abnormal was noticed beyond a small amount of hyperæmia of the medullary tissue partly forming this line.

"B. Below this line of ossification, the cancellated structure of the osseous tissue presented no decided pathological appearance. The medullary tissue was but slightly hyperæmic,—indeed, a certain number of fat vesicles were still to be seen here and there scattered through it. There was nothing which could be positively diagnosed as miliary tubercles, or caseous foci—the degenerated products of inflammation. Neither were the spicules of bone or of the primary cartilage, covered by an osseous coating, in a state of carious alteration; in other terms, their bone corpuscles were not undergoing fatty degeneration. The only change here visible was extremely slight, and could readily be attributable to a physiological rarefaction of the primary bone spicules or trabeculae.

"C. Above this line of ossification, the cartilage between the latter and the before-mentioned area of primary ossification in the cartilage constituting the epiphyseal head of the femur presented, in various circumscribed localities, a marked fibrillation (which in some cases even nearly approached segmentation) of the matrix or ground substance,—a fibrillation usually following a general direction vertical to the surface of the articular cartilage. Moreover, the cartilage capsules in the vicinity of these areas of fibrillation frequently showed distinct signs of irritation and increased activity. They were often enlarged, the primary capsules sometimes containing a number of secondary capsules inclosing cells with cloudy and scant protoplasm and large nuclei and nucleoli. Some of the primary capsules were filled with a number of cells devoid of an individual capsular envelopment. In the immediate vicinity of the area of ossification in the chondral head of the femur, the fibrillation above alluded to was often much marked, as was also the irritation of the cartilage cells. In this locality, in fact, it was not uncommon to see a mucoid softening affecting some of these elements inclosed within a capsular space, but the same species of softening also sometimes produced an enlargement of the original space, and finally channeled out minute lacunæ in the surrounding matrix. (See c, Figure 2.)

"D. Area of primary ossification in the chondral head of the femur. Nothing abnormal met the eye either in the bony trabeculae or in the marrow filling more or less completely the irregular cancellæ. There was neither caries of the bone nor tubercle of the marrow. Some of the cartilage cells filling the enlarged spaces adjacent to the medullary cavities of the last-mentioned bony area were perhaps a trifle more gran-

ular and fatty than in health, and could possibly, when fused with the medulla, have added a small element of fatty or caseous degeneration to the substance of the marrow.

"E. The cartilage between the area of ossification and the articular surface in circumscribed spots showed

FIG. 2.



Cartilage of head of femur, near point of primary ossification, showing minute points of mucoid softening (c) and linear arrangement of segmented cartilage cells (a). x 225.

a hyper-activity of the cartilage capsules, accompanied by some softening and fibrillation of the intercellular matrix, similar to that previously mentioned, although much less frequent.

"Just here the general statement may be made, with respect to the character of the cartilage cells of the femoral cartilage, that except in two or three cellular layers near the articular surface, and in the normal line of ossification, nearly all the cartilage cells are spindle form (a, Fig. 2), with a finely granular cell body, sometimes containing vacuoles or oil drops, and a comparatively large, round or oval, more coarsely granular, often double-contoured nucleus, which frequently incloses one or more distinct nucleoli. The capsule, if it exists, is not distinctly visible. Usually there is no shrinking of the cell, no separation between it and the wall of the space in which it is inclosed. Very often the cell is double, and sometimes, particularly in the neighborhood of the minute points of softening, to which allusion has already been made, it is quadruple, occasionally even still more multiple. In these double cells the spindle is usually divided across the middle, so that the two cells more or less closely represent two cones with their bases together.

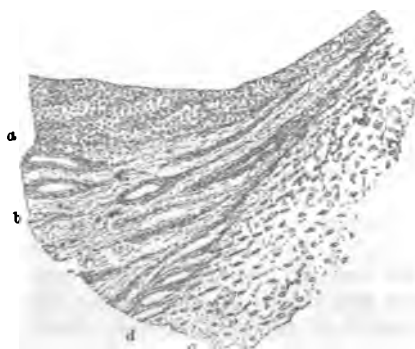
"In the quadruple and more multiple forms the cells are ranged in line, so that the spindle is divided by a number of cross-sections. The two end-cells are conical, the apex forming the point of the spindle. The other cells, ranged in line between these two, represent more or less solid cylinders. Frequently the cells composing the spindle are separated from each other by thin septa of the hyaline matrix. Often they appear to be in immediate contact with each other by their ends. These spindles cross at various angles, but their prevalent direction is in general that of parallelism to the articular surface. Close to the border of the ossifying segment, however, it seems to be parallel to the gross curve of this segment, whilst near the straight line of normal ossification the spindles are parallel with the latter. That these cells are really spindle form, and not flat cells seen in profile, is proved by the outline which they show when seen in various directions. In longitudinal section they present the shape of a spindle. In oblique optical section they appear elliptical, and their border varies with the

focus, while in transverse optical section the outline of the cell is nearly circular. The nucleus, which is usually seen in the centre, may be lost to view, and be made to appear again by alteration of the focus. There are no layers of spheroidal cells immediately below the superficial layer of flat or lenticular cells. Neither do the cells of the deep layers have a prevalent linear direction perpendicular to the articular surface. Scattered among the spindles, here and there, are a number of cells of spheroidal contour; they may be single, double, or multiple. Near the articular surface the spindles have a tendency to flatten from above downward, and very many of these flattened cells may have three or more short, wide processes. Sometimes these processes are long and filiform, and they may unite with those of an adjoining cell. The flat or lenticular cells of the surface layers are round, oval, or polygonal in outline, sometimes are double, with a body granular or containing numbers of minute oil drops or larger vacuoles, and a large round or oval nucleus inclosing usually a nucleolus. Occasionally the nucleus may be lengthened and constricted in the middle, or there may be two nucleoli. The superficial layers of the cartilage matrix are not abnormal.

"F. Excepting as to the area of primary ossification above mentioned, the foregoing statement of the general condition of the femoral cartilage may be considered as fairly descriptive of the state of the cartilage of the acetabulum. The same tendency of the space inclosing the cartilage cells to assume the spindle form may be affirmed of the acetabular cartilage in general; but more frequently than in the femoral cartilage, the inclosed cells lose the form of spindles and become flattened. In proliferating, the cells within the spaces frequently are found ranged side by side instead of end to end, this arrangement being more pronounced in proportion as the places of ossification are approached. In that portion of the septum constituting the Y-shaped cartilage which separates the acetabulum into three unequal sectors, and to which the ligamentum teres is attached, the prevalent direction of the long axis of the cell-containing spaces is vertical to the articular surface, except just at and a little below the line of attachment, in which location their direction changes to that of parallelism with the course of the ligamentous bundles.

"G. Attachment of ligamentum teres to the femoral cartilage. (See Figure 3, low magnifying power.)

FIG. 3.



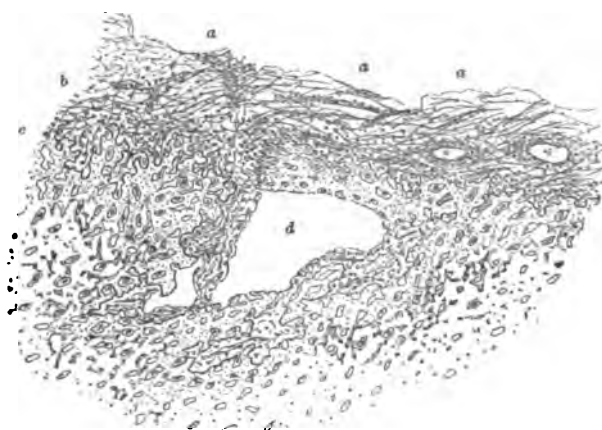
Attachment of ligamentum teres to head of femur. (a) Synovial surface of ligament. (b) White fibrous tissue of ligament. (c) Cartilage of head of femur. (d) Line of attachment. x 50.

"A few dilated veinules and arterioles and their accompanying capillaries were seen near line of the at-

tachment (*d*), winding between the fibrous bundles (*b*). At the insertion of these bundles into the cartilage there was usually but little cell multiplication, either in the tendon or cartilage. The superficial and deeper layers of cartilage at this location showed some increased activity or unusual irritation. The fibrous tissue of this end of the ligament was more vascular than it should be, and along the walls of the vessel was a more or less uniform accumulation of embryonal cells. Aside from these characteristics the tendinous tissue throughout its depth showed only a slight hyperplasia, such as is presented by young growing tendons. The surface of the tendon (*a*), however, was covered with a loose connective tissue in an active state of inflammation. That tissue was the seat of an abundant cell infiltration, and was well supplied with vessels whose walls were embryonal, and which in a few points had become entirely transformed into a multitude of embryonal cells, forming a cylinder plugged by a mass of fibrin and blood corpuscles, both red and white. In a few spots these cellular accumulations had become caseous.

"H. Attachment of the ligamentum teres to the acetabulum. (See Figure 4, low power.)

FIG. 4.



Attachment of ligamentum teres to acetabulum. (*c*) Softening cartilage. (*d*) Anfractuous space. (*e*) Blood-vessels in ligament at line of attachment. $\times 80$.

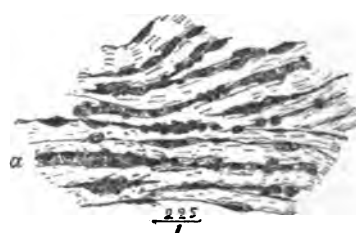
"At the point of attachment the cartilage was much softened. Along the line of attachment (*c*) the tendon was the seat of a considerable accumulation of embryonal cells. The border of the cartilage was eaten into by this embryonal tissue in such a manner as to present in a very marked way the irregular and the jagged outline of a surface channelled by Howships lacunæ. Everywhere in the vicinity of the line of attachment the cavities which contained the cartilage cells were enlarged. They sometimes were filled with a mucous tissue, sometimes a with number of embryonal cells instead of the typical cartilage cell. Frequently two or more of these cavities united to form a larger anfractuous space, which might originally have been filled with an analogous tissue. Occasionally large areas of the cartilage were thus softened and replaced by a tissue very similar to the red medulla of bone and permeated by capillary vessels. In the figure, such a large anfractuous space (*d*) is represented as partly filled by the medullary tissue and partly empty. In making the section or in manipulating it this tissue was partly loosened and displaced before mounting.

"The fibrous tissue of the tendon near the line of

attachment was traversed by numerous dilated blood-vessels. The walls of these in very many instances were embryonal. Around the vessels there was a marked increase of cell elements. The fibrous tissue itself was in much the same condition as that of the femoral end of the ligament, possibly a little more irritated.

"I. Ligamentum teres. (See Figure 5, high power.)

FIG. 5.

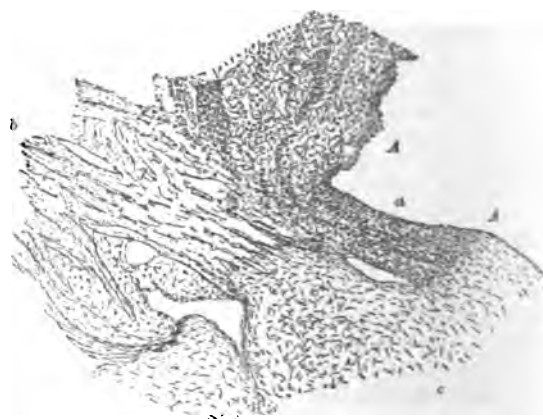


Ligamentum teres, deep portion, near acetabulum, showing proliferation of endothelia of fibrous tissues, and multiplication of leucocytes. $\times 225$.

The layer of loose cellular tissue which covered the ligament was highly inflamed and greatly infiltrated with numbers of young cell elements. The fibrous bundles of the tendon near the acetabular attachment and along their course toward the femoral end were in a state of marked inflammatory infiltration. Embryonal cells were abundantly scattered in the interstices between the bundles, and the flat cells of the latter were much swollen and often multiplied. The vessels were more numerous than normal, and their walls were in an embryonal condition.

"K. Synovial attachment to the periphery of the articular cartilages. (See Figure 6, representing appearances under low power.)

FIG. 6.



Attachment of the synovial membrane to the periphery of the articular cartilage of head of femur. (*a*) Synovial membrane. (*b*) White, fibrous tissue. (*c*) Cartilage. $\times 30$.

"The loose cellular tissue of the synovial membrane (*a*) was everywhere very thickly infiltrated with young cells. The vessels were abundant, and showed a marked cell infiltration of their walls. The cells upon the surface of the membrane (*d*) were several layers deep. Some of them were fatty-degenerated. Others were in a state of multiplication. Numbers of embryonal cells were interspersed among them. At the point of junction of this inflamed loose cellular tissue with the cartilage of the articulation was a very decided accumulation of cells of an embryonal charac-

ter, so closely heaped together that the mass presented the appearance of granulation tissue, or the young medulla tissue of bone. Adjoining this granulation tissue, and extending a considerable distance from it, the cartilage showed very much the same condition as that around the small points of softening in the femoral cartilage already described. The white fibrous tissue (*b*) upon which the synovial membrane at this location rested was in much the same condition as that of the fibrous bundles of the ligamentum teres at its femoral attachment. Where it joined the deep layers of cartilage, the latter showed signs of irritation and softening.

"Conclusions. First. It is apparent that the intensity of the morbid process in this case of hip-joint disease affects mainly the synovial membrane and the ligamentum teres and its covering.

"Second. While there is a slight fatty degeneration of the cartilage cells at the surface of the cartilage, there is no such decided alteration of this kind as Cornil and Ranvier and some other authors believe to be the initial and essential lesion in so-called scrofulous hip-joint disease.

"Third. While the femoral portion is the more diseased of the two cartilages entering into the formation of this joint, the condition of the cartilages is not sufficiently abnormal to support an assumption that the disease began in them.

"Fourth. The bony structure of the neck of the femur, although hyperæmic, is but slightly diseased, and is not tuberculous.

"Fifth. The few caseous foci found in the ligamentum teres are the only points in the joint which could be taken for tubercles, and they presented no characteristic of tubercle other than the caseous degeneration of the cells, — a distinction insufficient for the positive diagnosis of tubercle.

"Sixth. The lesions here found may be regarded as those constituting the *first* or *initial stage* of at least one form of hip-joint disease.

"Seventh. It is probable that the sequence of the phenomena making the history of the tuberculous processes originating in hip disease obey the same general laws which govern the development of tuberculosis in other portions of the economy.

"Eighth. The history of this case, both clinical and pathological, would seem to support the views of those who defend the doctrine that in a certain depraved animal organism inflammatory products tend to caseous degenerations which may ultimately cause a local or general infection of the various tissues of the animal and a limited or extensive irruption of tubercles.

"Ninth. The scrofulous or degenerative inflammation of a hip-joint need not be more certainly or more quickly followed by tuberculosis, either local or general, than a scrofulous lymph gland is followed by the same disorder."

Remarks. By De F. W. It will not be questioned that we have here a case of undoubted hip disease, and yet this boy was scarcely ever conscious of a positive pain. It is certainly remarkable how much disease may exist in this articulation without producing any considerable amount of suffering. I frequently have cases come to me already well advanced, and yet the inconvenience is so slight as to give no more than a limp. A truly strange case was given in the *New York Medical Record* November 22, 1879, by Poore,

in which the disease had even advanced to perforation of the acetabulum and intrapelvic abscess without producing any pain.

When there is "a feeling of discomfort" at the hip after use, accompanied by a slight limp, we should be very careful how we pronounce it "but a habit of the child," even though rigidity and pain be absent. Did time permit I could give a number of histories of cases in which I am confident that hip inflammation with its horrid results was actually aborted, but to do this the patient must be taken at a very early stage, and the surgeon must make his diagnosis from a few forerunning indications.

The microscopical examinations show that the disease had at no point advanced to the stage of ulceration, and also that fatty degeneration had barely commenced, still infection of the system had resulted; thus showing that while the inflammation could not be detected from the simple form, yet that there lurked behind this process a systemic condition, hereditary or acquired (call it by what name you will), predisposing to inflammations of a low grade, "languid."

I do not mean to assert that this inflammation was tuberculous in its character; on the contrary, it was apparently not so; but it is a well-known fact among pathologists that tuberculosis is the ultimate result of even a simple inflammation, caseous degeneration, glandular involvement, and then systemic poisoning being the successive stages of development.

The bad hygienic surroundings of this case may have been sufficient, without tracing out any parental history of scrofulosis, to have determined the question of recovery from any slight traumatic inflammation, or have turned its course in a retrograde direction. This child died, unquestionably, of tubercular meningitis, but his hip-joint and femur did not show any decided evidences of tuberculosis, — had scarcely even undergone either fatty or caseous changes.

It is not uncommon to find cases both of hip and spine disease dying of tubercular meningitis, but such a result would not occur at an early stage of the disease were the previous condition of the child untainted.

I cannot describe my idea of scrofulosis better than to say that it is an inherent property, either hereditary or acquired, which renders an individual subject to inflammations of low grade upon trivial, traumatic, or other causes, and that these inflammations all tend to destruction rather than to organization.

A person bearing such an influence receives a blow, and the result is an adenitis, a synovitis, or an osteitis, serious in results; in a healthy person a simple, transient hyperæmia would have followed.

These individuals are the ones who become so easily tuberculous. A joint inflammation starts quietly at first; as softening occurs the detritus is carried into the neighboring lymphatic glands. Whether caseous change has occurred or not, degeneration of scrofulous products is always the rule, and from these niduses of poison the products swept on contaminate the general system, and tuberculosis is the result. Such is the explanation given by Cornil and Ranvier of the relationship between scrofulosis and tuberculosis, and it seems to lie nearer the truth than does the idea of looking upon inflammations as necessarily tuberculous in their inceptions. It is a well-known fact that there exists in certain animals, as guinea pigs, a marked predisposition for all inflammations to run into a cheesy

degeneration, and that even a superficial point of inflammation is sufficient to induce tuberculosis.

In such a condition is the person who has lived under unfavorable sanitary surroundings, or has received a destructive legacy from his ancestry.

Tubercles in bones are preceded by osteitis; hence there is often a caseous change in the marrow, but not so often in the bone corpuscles. A cavity in a bone, even though lined by granulation tissue or filled with pus or cheesy material, should not be considered necessarily tuberculous unless the microscope develop tuberculous granulations in surrounding tissues.

I do not believe that we shall find tubercle in the bones in the early stages of the majority of joint inflammations, although Kortweg¹ contends that in all cases of chronic knee-joint synovitis the presence of tubercle in the condyles of the femur can be demonstrated and that the synovitis is only a secondary result by extension. Berry's idea is very similar.²

Professor H. H. Smith³ thinks that "the deficient action of the myeloid cells is closely connected with the development of leukæmia and pernicious anæmia, and that 'hæmic cachexia' in many points closely corresponds with the condition known as *scrofulosis*, and that this condition or similar disordered nutrition of the myeloid tissue leads to and aids the development of *tuberculosis* and the retrograde action of tubercle in bones."

Cornil states that one characteristic of *scrofulosis* seems to be a misproportion between the volume of the blood and the weight of the body, and that this is most evident when the inflammatory process is set up, the tissues possessing but little resistive power.

The inherent virus is vitalized at least by the absorption of the products of inflammation existing in the foci of caseation and liquefaction, and the lymphatic glands once passed general infection must follow.

That hip-joint disease is exceedingly liable to be followed by general tuberculosis is a well-established fact. Professor Gross as long since as 1858, in the *North American Medico-Chirurgical Review*, wrote a carefully prepared article upon this subject, giving many illustrations, with numerous dissections of diseased joints, while in an article by Poore, in the *New York Medical Record*, May 1, 1880, it is shown that as many cases died of tuberculosis after prolonged suppuration from the hip as of amyloid degeneration; the same will hold true in regard to caries of the vertebræ.

Another point of interest in the case under consideration was that although no osteitis was present, yet reflex muscular spasm existed most markedly, in opposition to the statement of Shaffer, that this symptom "always indicates osteitis in chronic joint disease."⁴ When osteitis is present the irritation of the nerve filaments is usually sufficient to give pain, yet muscular spasm often long antedates this condition.

In conclusion, I would say that we are still greatly in need of positive facts, both clinical and pathological, in regard to joint diseases. Our only safe method is carefully to study each case with an unprejudiced mind, not endeavoring to distort appearances to suit our views, but permitting our minds to be influenced by the things actually seen.

This one microscopical examination is of course but

from a single case, yet it has value in showing extremely early if not indeed initial changes actually occurring in a diseased hip-joint. Its teachings are left for individual decision; its impression upon my mind has been already indicated.

MEDICAL EXPERT TESTIMONY.¹

BY F. W. DRAPER, M. D.

THE single aim of this paper is to give a faithful picture of the modern American type of medical expert testimony, and to enter a plea for its radical regeneration. This venture to revive a topic which for many years has had a periodical ebb and flow of interest will be justified if it initiates a full discussion out of which shall come practical results too long delayed. We are familiar with the manner in which Massachusetts, led by the zealous efforts of the medical profession, has taken first rank in promoting the best cultivation of public medicine, and in regulating those matters that pertain to the public health, the registration of vital statistics, and the investigation of violent deaths. One other department of state medicine, that relating to medical expert testimony, still remains, deserving earnest thought, and requiring judicious amendment by the law givers. The reforms successfully accomplished through medical interposition and coöperation in times past give encouragement that similar endeavors will not be vain here.

I am conscious of the fact that I can present in this brief paper scarcely anything possessing the quality of novelty or originality. An examination of the periodical literature, legal and medical, published during the last twenty years, gives evidence that the subject has not been neglected; there has been no lack of learned criticism or of sagacious suggestions. In introducing such a venerable topic in a new guise, I acknowledge a faith in the virtue of iteration; a hope that the profession may determine that the time is now fully ripe for action, for an earnest endeavor to correct long-standing abuses in the relation which medicine holds to the law. With this in mind, I shall try to keep strictly within the limits that I have set, avoiding any introduction of matters pertaining to the rights, obligations, and behavior of medical witnesses, and urging simply and concisely the reasons that seem most cogent for the practical improvement of their present sphere and function.

There are two important considerations which commend the office of the medical expert to the renewed attention of physicians, and which should stimulate their hearty effort for its amelioration. In the first place, the expert is in a peculiar sense the public exponent and representative of his profession. Standing in the open light of the court of law, his manner as a witness, his technical opinions, his mental breadth, his learning, become matters of study and criticism in a way and to a degree wholly different from anything possible while he pursues the more congenial course of purely clinical labor in the secluded chamber of the sick. Generally, it is true, his exhibition is confined to the mixed company of spectators who take pleasure in the unsavory atmosphere of the temple of justice:

¹ P. Med. Times, July 6, 1878, page 469.

² N. Y. Med. Rec., January 30, 1880, page 113.

³ Pathol. of Tubercle in Bones, Transac. Am. Med. Assoc., 1877.

⁴ Pott's Disease. G. P. Putnam's Sons. 1879, page 28.

¹ Read at the meeting of the Boston Society for Medical Improvement, October 25 1880.

but the not infrequent occurrence of a celebrated case, a suit for heavy damages, or a capital trial enlarges his audience and exposes him to public gaze and comment. Whether he wishes and deserves it or not, he is regarded as a representative physician, and as having been chosen as such to fulfill his present functions.

It is quite time, therefore, that the implied or imputed superiority of the medical expert should be a real and not an assumed virtue; and it rests largely with physicians to show that they feel the importance of this as affecting intimately the professional *esprit de corps*.

But there is another reason, more personal in its character, which should lead physicians to take an active interest in this matter. Medical men, with rare exceptions, are well acquainted with the demoralizing exhibitions possible under existing rules of evidence. I allude now not to the unhappy and generally unjust civil suits in which physicians and surgeons are compelled to defend themselves against charges of malpractice, nor to the occasions on which, as chemists, as alienists, or as surgeons, they serve as medical experts; but I refer to the still more numerous instances in which they appear as ordinary witnesses in civil and criminal causes, in consequence of their intimate professional relations with mankind in the common course of life. We all know the great readiness with which actions are brought to recover damages for alleged personal injuries, and that in these suits the attending surgeon is always an important witness. So, also, in criminal trials, where the Commonwealth prosecutes, physicians frequently find themselves summoned to testify concerning wounds, fatal or otherwise, the consequence of unlawful violence. No medical man is exempt from this chance; under circumstances which are not of his own choosing, he is obliged to practice forensic medicine whether he will or not; he cannot foretell the hour when he may be called to close the cut which the homicide's knife has made, or to resist the progress of the septicemia which the abortionist has lighted. But the evil of which medical men have a right to complain is not that they must testify of what they actually know with regard to cases having a criminal element in them; as good citizens, they owe this duty in behalf of the common welfare. It is when the medical expert appears on the scene to interpret the facts of a scientific character thus presented that the medical witness often learns with dismay how poor an interpreter has been chosen, and how completely subservience rather than excellence has determined the choice.

For we know well what manner of man we may find in the typical American medical expert of modern times. He has been evolved out of the necessities of advocates and clients; he is the creature of his environment. Medical memory need not be severely taxed to recall conspicuous examples of that which is worst as the fruit of prevailing methods. But it is not with exceptional or distinguished exponents of a bad system that we have to do; the average specimen offers ample material for reflection on the conditions which have nurtured him. Let me mention two or three of the qualities which characterize the veteran medical expert.

In the first place, it goes without saying that he is partial; his partisanship is deliberate and inevitable. Without this controlling bias, he would be of little use in fulfilling the purposes for which he is employed. He is in court to help the counsel who has employed him;

his business there is to render assistance in securing a verdict. This is his mission, — his *raison d'être*. The novice may initiate his experience as a witness with some old-fashioned ideas as to the sphere and obligation of medical experts touching the truth and impartiality of their testimony; but he soon survives that. The lawyers quickly enlighten him concerning his relations to the party for whom he testifies. Nor is his partisanship a wholly voluntary matter; it is unavoidable and comes as a matter of course. Sympathy, not less than selfish interest and professional pride, leads him to color his statements on the witness-stand according to the needs of his client; the points of evidence which are useful to his side are put prominently forward; other matters are faithfully omitted, misrepresented, or obscured. The nature of the evidence itself permits this: it is comparatively difficult to distort a matter of fact without detection; but it is easy to mould so elastic a material as one's opinion, however scientific it may be, in such a way as shall suit present exigencies. The physician most skilled in this adaptability is most in demand as a medical expert; he is well known for skill in partisanship, and if he has a reputation for adroitness in "making the worse appear the better reason," it does not operate to his disadvantage.

It naturally follows from the biased state of mind thus developed in the medical expert that he becomes dogmatic, positive, and opinionated. Consciously or unconsciously, he yields to the temptation to state his views with emphasis and full confidence. It is not with him a difficult task to adjust probabilities and possibilities. Where others, more cautious than himself, are ready to acknowledge the instability of many of the so-called demonstrated principles of medical science, he affects to feel the ground beneath his feet entirely solid. Controverted questions do not perplex him. Is it a question of the source of certain blood globules found upon a weapon, his micrometric measurements and microscopic observations thereupon are infallible. Is the defense "insanity," there is no peradventure in the expert's mind concerning the subject. Is there a theory of spinal irritation or of spinal concussion to be elaborated, the witness is inflexible in his opinions and decided in his expression of them. It does not occur to him that in thus misrepresenting current medical knowledge he is injuring his profession; he is not in court to uphold the dignity of medical science. He has, in fact, been employed mainly because of his reputed self-reliance and dogmatism. If he went, in his testimony, to the point only to which the fixed principles of medicine would justify him in going, his usefulness to the party for whom he appears would often be greatly curtailed, and his occupation as a professional expert would soon be gone.

Finally, in this brief review of the aspects under which the modern medical expert presents himself, I place that which, for want of a better term, I call his mercenary side. Under prevailing methods, the physician in court as an expert witness is a hired servant; he has not been the recipient of an honorable appointment on account of recognized extraordinary attainments fitting him to fulfill a dignified medico-legal function, for which he merits, of course, a just remuneration; he appears on the witness-stand by virtue of a voluntary pledge or contract to use his medical knowledge to impress a jury and to win a verdict. He is bound in honor to discharge this obligation toward his employer and to earn the money which that employer has agreed

to pay him. It is not surprising that, in view of this relation between employer and employed, medical expert testimony is not in high repute among lawyers; and that, while using it as one of their legal weapons, they entertain scant respect for it. Not long ago, a well-known member of the bar expressed the prevailing opinion thus: "Medical testimony to almost any effect can be purchased in the market as readily as one may purchase a horse, and, to extend the simile, with as little assurance of soundness." This disposition finds an illustration in the recent conduct of a medical man who, it is reported, on learning that one of his creditors was a defendant in an action for damages on account of alleged personal injuries, proposed to cancel his pecuniary obligations by services in court, and threatened, if this proposition were not accepted, to appear as an expert on the opposing side.

We are told, too, of physicians who deliberately go a step farther in the mercenary direction, and are "attracted to the cause they serve, like seamen in time of war, not so much by the assurance of wages as by the possibility of prize." An impecunious party brings a suit against a corporation or against a man known to have a generous bank account, the ground of the action being certain injuries of a physical nature, received in consequence of the defendant's neglect; he needs the help of a lawyer and a doctor to maintain his cause. The advocate is easily secured if the case has "anything in it;" and the doctor's services are retained with nearly equal facility. Both these prime ministers expect their fees from the damages awarded to their client; their compensation depends on the result of the trial. It is therefore for their interest to labor diligently, with energy, tact, and cunning, to obtain a verdict. Here there are exactly the conditions favorable to the development of the very worst kind of medical expert, — a medical advocate inspired by selfish interest and a hope of pecuniary gain. And if, as frequently occurs, the cause is appealed, or is tried a second time in the same court, the temptations to vigorous partisanship are cumulative. Instead of being present in the case to aid without prejudice in determining truth, he comes really as a party to the suit, voluntarily taking a hand in the game, and trusting to luck and the jury to save him from loss for his venture.

Now, without proceeding farther to detail the characteristics of the prevailing type of medical expert testimony, I want to emphasize the fact that it is the legitimate fruit of the conditions under which the modern practice of the law is pursued. The physician in the sick-room does not exhibit the disposition here depicted; but place him under the novel and subtle influences of the court-room and he becomes another creature. In this new relation, he inevitably finds himself subject, in greater or less degree, to peculiar temptations. For nearly all that is objectionable in the exhibitions made by medical experts I blame the methods under which such experts are employed and utilized; the system, and not its exponent, is at fault. A case, for example, occurs which offers an opportunity for the use of medical testimony. Dr. A. receives a politely insinuating note from the eminent counsel, intimating that his services as an expert will be very acceptable. Dr. A. does not inquire very carefully into the grounds which have determined the selection; he feels complimented, at all events, and he consents to be retained. The lawyer, as a matter of course, has canvassed the availability of the candidate beforehand, and

has decided to employ him because he will probably be a useful ally; his usefulness depending less on distinguished professional position or extraordinary knowledge than on his success in impressing favorably twelve ordinary men, on his pliability in forming scientific opinions, and on his perfectly imperturbable pertinacity in maintaining them, once formed. Now, the retained expert having fully committed himself to the service of his employer, his independence is laid aside. He is expected, in preparing for the trial, to develop all the elements in the case favorable to his own side only. The advocate consults with him, coaches him, nourishes in him a controlling partiality, does all in his power to stimulate a cordial interest in his client's cause. The witness thus approaches the trial, expert chiefly as a partisan medical advocate. Against the insidious influences which promote this surrender of mental equipoise few physicians could successfully defend their judgment. One might intend and resolve at the outset to maintain an unprejudiced frame of mind, to be ready to observe, deliberate in drawing conclusions, cautious in stating them. He might reinforce his purpose by recalling the counsel of the eminent jurist, Lord Hatherly. "Every witness," he says, "should eschew altogether the notion of partisanship. He should be ready to give his opinion frankly and unreservedly, regardless how it may tell. He is there, not as an advocate, but in order to inform the court and jury to the best of his judgment." But, however fully such authority may commend itself to the medical witness, he must be a rare exception who invariably guides his demeanor by it in practice. Ordinarily, the exigencies of his service, his sympathy with his client's cause, his sense of obligation to fulfill an implied contract, all draw him away from a judicial independence of reasoning.

Then at the trial itself still more compulsory influences encompass him. He now finds himself in the arena, marshaled with others to defend the cause of his own side, to neutralize the strength of the opposing side. He is harassed by the technical limitations of the rules of evidence. Through the inability of lawyers to conduct an examination on medical subjects, he is made to state views which, under other circumstances, he would not think of maintaining. The leading questions with which the cross-examination bristles ensnare him into unexpected and embarrassing corners, out of which the easiest way lies through extraordinary expositions of medical science. Professional pride compels him to maintain stoutly his position, a retreat from the ground being deemed worse than the blunder which took him there. First, last, and always he is to shape his course with the single aim of helping to win a verdict favorable to his side, and of earning thereby the dollars which are his reward for faithful service.

It is cause for regret that the English and American methods of employing medical experts have fallen away so greatly from the primitive practice. Under the Roman law, the physician in court as an expert witness held a relation of exceptional honor and responsibility; he was *amicus curiæ*, an independent, unprejudiced interpreter of medical facts.¹ He was summoned to instruct the court and jury in matters of which they had, presumably, a general and imperfect knowledge only. His duty was to aid in establishing the whole truth. In such a position, a physician occupied a most honorable office. He was chosen because of his acknowledged superiority; he truly represented his profession.

¹ Ordonaux, Jurisprudence of Medicine, page 125.

And in still more recent times, even down to the present period, the system in vogue in France and Germany is far in advance of our own in securing the end which the theory of medical expert testimony designs. Either under the German plan which provides for official experts, or under the French method which leaves the employment and choice of the expert at the discretion of the court, the medico-legal results are admirable and in striking contrast with the procedures with which we are familiar, and which permit a suitor to come into court with a company of medical Hessians enlisted to defeat his opponent.

Now, what can be done — and this is the one important question for consideration — to modify or, if need be, to revolutionize these unworthy methods? It is plain that the only way out of the difficulty is through legislation. Statutory law must prescribe the *modus operandi* and forbid practices contrary thereto, establishing legal provisions which shall be clear and just for the guidance of all concerned.

Without pausing to review the various propositions that have been made from time to time for compassing this end, I remark at the outset that, as may readily be inferred from what has been presented, the first thing to be desired is the complete removal of the medical witness from the influences and temptations of partiality; he must be lifted far above the plane of bias. This is the corner-stone on which the entire new structure must be built, if the evils of which we complain at present are to be avoided. Other provisions are mainly correlative and subordinate details growing out of this.

To secure this end, the best way, because it is the most practical and the most in accord with American notions of fairness, is that which would provide that the medical expert in any action at law, civil or criminal, should be the choice of the two parties contending. Grant this primary principle, and all other secondary questions and exigencies will find comparatively easy adjustment. The advantages of such an innovation, both theoretical and practical, are too plain to be mistaken. Theoretically, a statute covering such a plan would secure experts in fact as well as in name, since it would obviously be for the interest of all concerned that the best medical judgment should be obtained upon technical questions involved in the issue on trial. Instead of the present deplorable exhibitions, so amusing to lawyers, so discreditable to the medical profession, so subversive of justice, we should see a true representative of medical science, selected because he is recognized as such, appearing in court as the honorable interpreter of medical data, the instructor of the court and jury in matters of which they are presumed to be ignorant. We should see him the calm and dispassionate exponent of the most recent authoritative advances in science as well as of the settled principles which are the fruit of long experience. We should see him, with the same judicial impartiality which the presiding justice himself must display, passing judgment, without fear or favor, on matters which legitimately fall to his office as an expert. There would be little danger that this altogether honorable function would fall into unworthy hands under such a system; the man chosen would, from the necessities of the case, be well known as the possessor of extraordinary knowledge fitting him to comprehend and to elucidate the points presented in the testimony. The man of pronounced and peculiar views, the man of hobbies, would not be sought; his judgment is already discounted.

In practice, the expert thus selected, because of his eminent fitness, his experience, his judicial fairness, his independence, would make such investigations as the case demanded, would listen to all the testimony, and at the proper time would report his conclusions either as oral testimony or, preferably, in the form of a written statement. Here would occur an opportunity for professional distinction. The name of medical expert, instead of conveying with it a questionable flavor, would become a term of good repute, attracting rather than repelling the master minds in the profession; while the many-sided questions presented in legal suits and actions would offer occasions for medico-legal reports such as have made Germany and France confessedly the leaders in forensic medicine. It is to be expected that an innovation like this will meet with opposition and unfriendly criticism. Objections will arise in part from legal considerations touching the rights of citizens, and in part from a conservatism which sets itself against all changes, and especially against such as concern institutions that serve selfish ends.

For example, it will be urged that the selection of one or more medical witnesses to be clothed with something like judicial powers will be prejudicial to the traditional and constitutional right of the individual citizen to defend his person, property, or character by producing "all proofs that may be favorable to him." As a matter of fact, however, the proposed plan would much more fully protect the interests of honest suitors, and secure them against injurious and unjust results, than is possible under prevailing methods. At present, the issue, so far as the medical elements are concerned, often depends more on the number and eminence of the hired experts than on the intrinsic strength of the case; so that a poor man, no matter how just his cause, is at great disadvantage in the presence of an adversary able by his wealth to command any amount or kind of medical testimony. The medical expert under the plan proposed would have no inducement to present anything other or less than the whole truth, and this would have effect precisely where it ought.

Moreover, this testimony would be subject, of course, to such a review at the hands of counsel (analogous in its conduct to that of a cross-examination) that its value and the firmness of the witness's belief in it would be properly tested. The witness himself, meanwhile, would not have to fear the abusive treatment now so commonly offered in court and so justly dreaded by physicians.

But if either party to the suit or action felt disappointment in the result of the expert's investigations and in the effect of his conclusions, still other measures beside a rigid scrutiny of the testimony would be available. Either side, or both plaintiff and defendant, indeed, might be permitted to summon and pay experts of their own choice, just as at present, and might use them as supplemental witnesses either to confirm or to refute the position taken by the expert in chief. The latter, however, would always have great advantage over any partisan assistance thus secured, for his independent position would always place him in the eyes of the court and jury far above any partial testimony that might be offered; while, at the same time, the knowledge that his investigations and deductions would possibly undergo medical examination would compel him to avoid the expression of questionable opinions, and stimulate him to elaborate his conclusions with the greatest care and accuracy.

I have thus described that which I regard as the pivotal point of an effective plan for improving the relations of physicians to the administration of justice. Other matters in the same connection will arrange and adjust themselves in harmony with this main idea. The remuneration of experts, the method of selecting them when the two parties in interest fail to agree,—these and other kindred questions are chiefly points of detail not difficult to meet.

The views here presented have met with favor from a committee of the Massachusetts Medico-Legal Society appointed to consider the subject of medical expert testimony. That committee, of which the honorable Attorney-General of the State was chairman, has formulated its conclusions in the draught of a bill for legislative action. This bill, of which a copy is appended, seems admirably comprehensive and feasible in its provisions. Will the medical profession favor such a measure and aid in its enactment?

AN ACT IN RELATION TO MEDICAL EXPERT TESTIMONY.

Be it enacted, etc.

SECTION 1. In any action, suit, or proceeding, civil or criminal, in which the testimony of a medical expert witness is desired by the parties, they may at any time before the trial file in the clerk's office a written agreement that such witness shall be summoned, designating him by name if agreed upon. The clerk shall thereupon issue a subpoena to the person designated, to be served in the manner provided by law. As soon as may be after service thereof the witness shall make such examination of the case as may in his judgment be necessary and practicable, and he shall attend as commanded in the subpoena, and answer such questions as may be put in relation to the case.

SECTION 2. If no person is designated by the agreement of the parties, the court, or any judge thereof in chambers, or in vacation, in any county, upon the filing thereof, shall designate a proper person, learned in the science of medicine, to be summoned as such expert witness, and the clerk shall thereupon issue a subpoena as hereinbefore provided. If the parties do not agree that a medical expert witness shall be summoned in the case, the court or judge, upon motion of either party and upon hearing, may determine the question, and may designate the person to be summoned, if any, as hereinbefore provided.

SECTION 3. Such witness shall be paid for his attendance, travel, and services a reasonable compensation, to be allowed by the court and paid out of the treasury of the county. In all civil actions and proceedings the defeated party shall be liable to refund the amount so disbursed; and after final judgment an execution may issue against him therefor in favor of the county commissioners, or, in the county of Suffolk, the city of Boston.

SECTION 4. In any case the court, upon its own motion or for cause shown, may order more than one, and not exceeding three persons, to be summoned as medical expert witnesses; and such additional witnesses shall be designated and summoned, and shall perform the same services and receive the same compensation as hereinbefore provided.

SECTION 5. In any criminal proceeding the defendant may call and examine other medical expert witnesses in addition to those hereinbefore provided for, but at his own cost; and in such case other medical expert witnesses may be called and examined in behalf of the commonwealth.¹

SECTION 6. No medical expert witness shall be admitted to testify before any court or magistrate except as hereinbefore provided.

RECENT PROGRESS IN PHYSIOLOGY.

BY G. M. GARLAND, M. D.

SWEAT.

It was formerly supposed that the secretion of sweat was dependent upon the blood pressure in the glands, and that warm drinks, motion, etc., favored the process only as they determined more blood to the periphery. The discovery by Ludwig that an irritation of the chorda tympani would produce an active secretion of

saliva from the submaxillary gland, irrespective of the circulation in that part, led to an investigation of the relation of glandular activity in general to nerve influence. It was soon found that the bile, milk, and the watery constituents of the urine are probably simple transudations, which depend directly upon blood pressure, and are only indirectly influenced by the nerves which govern the blood supply of the part. On the other hand, it was observed that the lachrymal and salivary glands could be made to secrete profusely by the irritation of proper nerves, and that this secretion would take place after the blood supply was cut off, as in an amputated head. Ludwig produced by nerve irritation a salivary secretion with a tension double that in the aorta.

Recent investigations upon the sweat glands have revealed that they react in a similar manner to nerve influence. Brown-Séquard produced sweating of face by irritating the mucous membrane of the tongue, and cases are reported where sweating has been caused by pressure of a tumor on a sympathetic plexus. One patient with a tumor could produce general or one-sided sweating, according as he lay on his back or side. Adamkiewicz relates a number of experiments which he tried upon man and animals. Having cut the sciatic nerve of one side of a cat, he exposed her to a high temperature, and found that the corresponding foot was dry, though the other feet sweat freely. If the peripheral end of the cut nerve were irritated by electricity the foot sweat profusely, and this took place even after the leg was amputated. Similar results were obtained in the fore foot after section of the brachial nerves, thereby proving that sweat is not a transudation, but the product of the activity of glandular cells under the stimulus of nerve activity.

Having thus detected the presence of sweat fibres in the brachial and sciatic nerves, observers endeavored to trace these fibres back to the central system. By making sections of the cord at various heights, and by destroying portions of the same, it was found that the sweat fibres for the fore feet leave the cord at the level of the fourth dorsal vertebra. They immediately unite with the thoracic sympathetic system, and pass through the superior thoracic ganglion to join the median and ulnar nerves. Destruction of this ganglion causes degeneration of the sweat glands in the fore feet. The fibres for the hind feet leave the cord at the level of the lower dorsal and upper lumbar vertebrae, and joining the abdominal sympathetic they finally unite with the sciatic.

With regard to the fate of these fibres in the cord considerable difference of opinion exists. Luchsinger thinks that the sweat centres are all localized in the cord itself, near the points where the fibres make their exit. Adamkiewicz thinks that the cord contains some sweat centres, and that it is also the rendezvous for fibres descending from higher centres in the medulla and brain. Nawrocki contends that the medulla is the focus of all the fibres, and that the cord contains no centres of its own. He says he has tried to make animals sweat after section of the cord at the first dorsal vertebra, and has succeeded but once. Others have succeeded, however, in this experiment, and therefore it seems probable that sweat centres may exist in the cord as well as in the medulla.

Concerning the action of diaphoretic drugs, Nawrocki says the general testimony is that picrotoxine, sulphate of physostigmine, and nicotine produce sweat-

¹ Section 5 is inserted only to meet the possible objection of the unconstitutionality of the bill in its application to criminal cases.

ing by stimulation of the sweat centres. If one sciatic nerve be cut in a cat, and the animal then receive an injection of any one of the above drugs, the affected foot will remain dry, while the others are made moist. If pilocarpine or muscarin be injected after section of the cord at the first dorsal vertebra, and after cutting the sciatic, all four feet will sweat equally. This shows that the last two drugs must act directly upon the cells of the sweat glands.

HYPNOTISM.

The halo of mysticism which charlatans have thrown about the subject of mesmerism has tended to restrain scientific men from the investigation of this interesting but dubious subject. A few men have been brave enough to challenge this "new force,"—animal magnetism,—and to apply intelligent methods of investigation to the mesmeric phenomena. Braid, who was a physician in Manchester, England, studied the subject for many years, and published his results in 1843. He boldly renounced the special force hypothesis, and said that hypnotism was due to a disturbance of the cerebral circulation. He found that he could induce this condition by causing people to gaze fixedly at any bright object, when they would become hypnotized irrespective of any influence exercised by any person near them. Another theory has been advanced, that a person hypnotized is under the influence of a "dominant idea." Kircher, in the last century, would make a fowl lie motionless, as if asleep, with its beak resting upon a chalk line. He explained this by supposing that the fowl mistook the chalk line for a string, and lay quiet, thinking itself tied. This is attributing rather a vivid imagination to a hen, and it has since been shown that the chalk line is not essential to the experiment. Czermak and Preyer have produced hypnosis, or cataplexy as Preyer terms it, in other creatures, such as frogs, cray-fish, etc. While in this condition they will remain motionless in the most constrained positions, as if bereft of will and consciousness.

Recently, Professor Heidenhain, of Breslau, has experimented upon a number of his friends, and has developed some very interesting facts, together with a promising theory of interpretation. He found that he could induce hypnotism in certain persons by causing them to look steadily at some bright object, or to listen attentively to a monotonous sound, like the ticking of a watch or a droning lullaby. Gentle and rhythmical stimulation of the skin acts in the same way. It has been claimed that only certain persons possess the power of magnetizing, and it is true that some persons succeed better than others with subjects who are slightly excitable. Heidenhain says this elective behavior is due to certain physical conditions, which must be taken into account by those who endeavor to *magnetize*. Thus the warmth and moisture of the hands, the manner in which they are moved, the modulations of the voice, etc., all contribute to the desired effect. He says it is difficult to hypnotize a man who is blindfolded, but he has hypnotized persons who were previously kept in entire ignorance of the purpose of the experimenter. Thus he shows that hypnotism is induced, irrespective of any person operating, by weak, long-continued, uniform stimulation of the nerves of the eye and ear, and it is removed by strong or suddenly varying stimulation of the same nerves. The power of the operator does not depend upon his secret mag-

netic force, but upon his ability to produce and maintain such rhythmical stimulation.

Several distinct phenomena are exhibited by hypnotized persons. In the first place, mimicry is very conspicuous. The hypnotized person mimics familiar motions which he sees and hears. He clenches his fist, walks about, rides astride a chair, eats a potato for an apple, and does many other things in an automatic, imitative manner, without consciousness or subsequent recollection. Heidenhain explains this condition by the theory that communication is interrupted between the cortex of the brain and the large ganglia at its base. The impressions made upon the eye and ear being conveyed to the basal ganglia are there converted directly into motion without entering the realm of consciousness. This may be explained in another manner by using the term "liminal intensity of stimulation." For every sensation there exists a certain minimal strength of stimulation which must not be diminished, or no sensation results. If the amount of light which falls upon the eye or the intensity of sound which enters the ear be too slight, then no sensation of light or sound results. The smallest amount of stimulation which just produces sensation is called, after Fechner, the liminal value of stimulation. Now, according to Heidenhain, the hypnotized person is distinguished from the normal in that the liminal value of stimulation is exceedingly high. Sensory impressions which under normal conditions cause vivid sensations are unable to awaken his consciousness; at best they arouse previously well-trained reflex centres into activity.

Another phenomenon is that of analgesia. A pin may be run into the arm of a hypnotized person without causing pain. It is well known that the sensations of touch and pain travel by different paths. At a certain stage of chloroform narcosis a patient may feel the contact of a knife, but be unconscious of the painful cutting. Hypnotized persons are similarly affected, and may be operated upon with impunity.

Great reflex irritability of all the striated muscles is another peculiar condition, and this increase of irritability will persist for hours and even days after the experiment. By gently stroking the muscles of the arm of a hypnotized person, Heidenhain could produce rigidity of the part. Sometimes the muscular spasm, started in one part, will travel from one group of muscles to another until it has visited the entire body. The muscles thus excited remain contracted for some time, keeping the part rigid, and thus resembling the disease called catalepsy. A person of powerful muscles will become so rigid that it will be almost impossible to move any part of him. Too frequent experimenting upon the same subject is not advisable, owing to the slow return to the normal condition.

With regard to the condition of the brain itself, Heidenhain offers but a few suggestions. Consciousness is evidently diminished, and hence he thinks the cerebral cortex is functionally affected. The activity of the corpora quadrigemina is not diminished, because the pupils react perfectly, and equilibrium is maintained. The hypnotism is not apparently due to cerebral anæmia, because the retinal vessels were normal, and a person could be hypnotized while his face was still flushed from the inhalation of nitrite of amyl. He thinks hypnotism is an inhibitory phenomenon, to be ranked with other familiar examples. Irritation of the larynx affects the ganglion cells of respiration, and

inhibits their activity. Irritation of the vagus inhibits the heart ganglia. In a similar manner an inhibition of the activity of the ganglion cells of the cortex of the brain may be the cause of hypnotism.

THE PYLORIC SECRETION.

In studying the value of the gastric secretions in digestion it was found convenient to prepare a glycerine extract of the stomach, which could be kept for a length of time, and used at pleasure. This extract is made by carefully scraping the washed mucous membrane from the stomach wall, mincing it up fine, and immersing it in glycerine. The membrane thus treated imparts its pepsine virtues to the glycerine, which may then be used in digestion experiments, fresh glycerine being added occasionally, until the membrane is exhausted. Alcoholic extracts do not work satisfactorily. While employing this method Ebstein and Grützner conceived the idea of extracting the mucous membrane of the pylorus separate from that of the fundus, in order to test the value of the former alone. They declared as the result of this experiment that the secretion of the pylorus from a dog will digest albumen readily. Von Wittich repeated the same experiment upon rabbits and pigs, and he denies emphatically that the secretion of the part in question possesses any peptonic power. He placed flakes of fibrine on two filters. To one he added a portion of pyloric extract; to the other a like portion of fundus extract. As the fibrine became dissolved by digestion it passed through the paper, and could be recovered from the filtrate. The fibrine with the fundus extract was quickly dissolved and filtered, while that with the pyloric extract was very little or not at all affected.

Klemensiewicz first conceived the bold idea of isolating the pylorus after Thiry's method with the intestine. He completely severed the pylorus from the neighboring parts, leaving only its vascular and nervous supply intact, and connected the remnant of the stomach above with the duodenum below, in order to preserve the continuity of the alimentary tube. Then he made an artificial pocket of the pylorus, which opened outward through the abdominal wall. The operation was only partially successful, as no dog lived longer than seventy-two hours thereafter, and most of them died earlier than that. During the time they lived he obtained from his pocket an *alkaline* secretion of shiny, sticky consistence, sometimes stained with pus and blood. This secretion, mixed with a one tenth per cent. solution of hydrochloric acid, digested fibrine as readily as the secretion of the fundus. This seemed proof that the pyloric glands do secrete pepsine, but Heidenhain thought that seventy-two hours was a rather short isolation of the part, and that the results obtained might be due to fundus secretion still clinging to the pylorus. Accordingly, he performed the same operation by Lister's method with antiseptic precautions, and was thus able to keep his dogs alive from two to four weeks. They were liable to die of starvation from cicatricial stricture of the stomach. His digestion results were entirely confirmatory of Klemensiewicz's statements, for he obtained a clear alkaline secretion, which digested fibrine readily when mixed with a one tenth per cent. solution of hydrochloric acid. It is an interesting fact that the secretion of the pylorus, like that of the intestine, is *alkaline*. Heidenhain isolated a portion of the fundus by a similar operation, and found the secretion acid without excep-

tion. It has occurred to me that some forms of dyspepsia may be due to an excessive secretion of this alkaline fluid of the pylorus.

Heidenhain noticed one peculiarity about the amount of pepsine contained in the fundus secretion. Immediately after eating the pepsine diminishes in amount, and continues to do so for two hours. Then it increases until the fifth hour, when it is more abundant than before eating. From this time it declines slowly to the fasting level. This initial diminution is very striking, and Heidenhain is unable to explain it. It has nothing to do with the whole amount of secretion, because sometimes an abundant flow will contain a larger proportion of pepsine than a previously scanty flow. If the animal be fed again after two hours, that is, during the interval of increase, the pepsine will immediately be diminished again.

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Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

ANTISEPTIC SURGERY.

REPORTED BY WILLIAM D. HODGES, HOUSE PHYSICIAN.

THE operations described in the following notes were performed under the carbolic spray, and the wounds dressed with carbolic gauze; protective and drainage tubes, catgut ligatures and sutures, were employed, as usual in a Lister dressing. The cases occurred between March and June 30, 1880, and comprise all the breast excisions performed in the east wing of the hospital during that period.

CANCER OF THE BREAST.

CASE I. Age, sixty-five years. Disease of two years' duration, involving both breasts and the glands of the axillæ. Both breasts removed. Dressings not changed until the sixteenth day, when complete union by first intention had taken place. Temperature varied between 98° and 100° F. throughout.

CASE II. Age, fifty-three years. Tumor of nine months' duration, and the size of an egg. The glands of the axilla were involved. Five dressings. Union by first intention. Discharged on the fifteenth day. Temperature highest on the day after operation, 100.5°. It subsequently varied between 98.5° and 99.5°.

CASE III. Age, forty years. Tumor of two years' duration, involving the whole breast, with enlarged glands in the axilla. Five dressings applied. Drainage tube removed on the twelfth day. Union by first intention, except where the drainage tube entered the wound. Discharged on the twenty-seventh day. Temperature never varied from normal limits.

CASE IV. Age, sixty-eight years. Tumor of one year's duration. The size of a hen's egg. The glands of the axilla were also involved. Three dressings applied. On the tenth day a slight gaping of the wound. Boracic acid and vaseline (one drachm to one ounce) substituted for the dressing. Discharged, well, on the thirty-eighth day. Temperature on the afternoon of the operation, 103°; three days later it was normal, and remained so, with slight variations.

CASE V. Age, forty-seven years. Tumor of eight months' duration. Axillary glands enlarged. Counter-opening made in the axilla, through which the drainage tube was passed. Five dressings applied. Drainage tube removed on the eighth day. Dressings omitted on the eleventh day. Complete union by first intention. Discharged on the fourteenth day. Temperature throughout varied between 98.5° and 100°.

CASE VI. Age, fifty-five years. Tumor involved the whole breast: had been growing ten months, and was adherent to the skin. Five dressings applied. Omitted on the fourteenth day. Wound healed by first intention, except where the drainage tube was inserted. Temperature highest on the fifth day, 101°; during the rest of the time it varied between 98° and 99.5°.

CASE VII. Age, forty-seven years. A nodular growth, of two and a half years' duration, the size of an egg, and adherent to the skin. Dressings applied five times. On twentieth day the small granulating surface remaining was dressed with boracic acid and vaseline. Discharged, well, on the thirty-fourth day. Temperature on the morning following the operation 101.5°; after that time, it varied between 98.5° and 99.5°.

CASE VIII. Age, forty-four years. Tumor of eight months' growth, hard, movable, and about the size of a lemon. Five dressings applied. Patient discharged on the twenty-third day. Union by first intention. Temperature ranged from 98° to 100.5°.

CASE IX. Age, forty-nine years. Tumor size of a walnut; had been growing four months. Three dressings applied. Omitted on the thirteenth day. Wound united by first intention, except where the drainage tube was inserted. Temperature highest on the sixth day, 101.8°, during the rest of the time it varied between 98.8° and 100.5°.

CASE X. Age, twenty-seven years. Sarcoma of breast. Tumor of three months' duration, about the size of a hen's egg, and adherent to the skin. Four dressings applied. Omitted on the fifteenth day. Union by first intention. Temperature throughout varied between 98° and 99.5°.

CASE XI. Age, sixty years. Tumor of three years' duration, and about the size of a lemon. The glands of the axilla involved. Five dressings. Omitted on the tenth day. Slight gaping of the wound. Temperature highest the day after the operation, 102°. During the remainder of the time it varied between 98° and 100.2°.

STRANGULATED FEMORAL HERNIA.

Female, seventy-five years old. Hernia of three years' duration. Three days previous to entrance, had all the symptoms of strangulation with great pain and incessant vomiting. Taxis failing, the sac was opened, and the intestine found very black, but easily reduced after division of the stricture. First dressing was not removed until the ninth day after the operation, and the wound found to be wholly united by first intention.

Discharged on the twentieth day. Temperature on the day of operation was 100.2°, and remained so four days. During the rest of the time it varied within normal limits.

COMPOUND COMMINUTED FRACTURE OF THE RADIUS AND ULNA.

Age, twelve years. Railroad injury. Fore-arm amputated at upper third by a circular flap. Nine dressings applied. Discharged on the twenty-ninth day. Temperature highest the day of the operation, 102°. During the rest of the time it kept within normal limits.

COMPOUND COMMINUTED FRACTURE OF THE HUMERUS.

Age, forty-four years. Patient was injured ten weeks previous to entrance. Extensive abscesses had formed in the axilla, about the upper part of the humerus, and near the elbow. Five large openings were made, and drainage tubes inserted, and the cavities thoroughly carbolyzed. Fourteen dressings applied. Discharged well, and with good union, on the sixty-third day. Temperature at the time of entrance, 101.5°; during the rest of the time normal.

COMPOUND COMMINUTED FRACTURE OF THE TIBIA AND FIBULA.

Age, twenty-one years. Amputation at upper third of leg. Short anterior and long posterior flaps. Twelve dressings applied. Slight gaping of the wound. Discharged, well, on the forty-ninth day. Temperature 103.5° on the fourth day after operation. During the rest of the time it ranged between 99° and 100.5°.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

OCTOBER 25, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

MEDICAL EXPERT TESTIMONY.

DR. F. W. DRAPER read a paper upon this subject, which appears in the first part of the present number of the JOURNAL.

DR. HODGES remarked that Dr. Draper had portrayed in vivid language an abuse which had long been talked about and a bill to remedy which had already been brought before the legislature, but without any good result, as the legal gentlemen on the committee had not cordially accepted the proposed change.

He also said that the method suggested by the Medico-Legal Society was a good one, but that if the lawyers opposed it, it would be almost impossible to have it adopted, and that he hoped, therefore, that eminent lawyers were engaged in furthering it.

In regard to the abuse which has arisen from medical experts being partisan and serving merely the side which employs them, it may be correcting itself, for this class of testimony is so well recognized that the disposition to place them on the witness stand is decreasing; on the other hand, the best experts and the best lawyers do not usually care which side summons the expert. It is a question whether a medical expert can be subpoenaed, unless it can be shown that he

knows certain facts in regard to the case, in which case he acts merely as an ordinary witness.

DR. ELLIS remarked that if this is the fact the abuse might be remedied by every respectable physician refusing to go into court until the abuse was reformed.

DR. WOOD spoke of the necessity of having more than one expert connected with the case, in order that all the material should not pass through one man's hands, thus avoiding the chance of the defendant's life hanging on the decision of one individual.

DR. HODGES spoke of the excellence of Dr. Jeffries Wyman's testimony in the Webster case, and asked why, in the proposed bill, the court does not appoint the expert.

DR. DRAPER replied that the French method was open to abuse, and that the method spoken of in the bill was less often liable to prove unsatisfactory than others which had already been tried.

DR. HODGES asked if it would not be well for one or more experts to be appointed by the court to examine the case in all its details and make a report on it, without being examined further in regard to it.

DR. DRAPER could not see how cross-examination in court could harm a report, as, if it was a good report, it would be strengthened by the cross-examination.

DR. GREENOUGH said that in most suits for malpractice the lawyers did not want experts, but partisans, and that therefore it is a question whether we can at present accomplish any reform.

DR. DRAPER did not think that this was the case with the lawyers, many of whom had expressed themselves as heartily sick of the present state of expert testimony.

DR. LYMAN said that all great measures of reform were apt to fail several times before they were carried out, and that he heartily indorsed Dr. Draper's paper.

DR. H. W. WILLIAMS said that this was a very fortunate opportunity for the profession to cooperate with a society which had already distinguished itself, and whose action had been approved by the attorney-general; he also suggested that the court as well as the counsel should superintend the choice of the experts. Dr. Williams then offered the following motion, which was voted on and carried:—

Voted, That a committee of four be appointed by the chair, who, together with the chairman of this meeting, shall act in cooperation with other societies in endeavoring to obtain suitable legislation in regard to medical expert testimony.

DR. DENNY said that the views advocated at the International Congress of Legal Medicine, held in Paris in 1878, on the subject of medical expert testimony disclosed the same imperfections in the system in vogue in Europe. The expert there, it was stated, was sometimes a disreputable representative of the profession. We are not singular, therefore, in this respect. The qualifications of an expert on the Continent, it would appear, depend on his status as a member of a medical body recognized by the state, and in order to render this more definite it was advocated at the congress that there should be instituted in connection with this mixed body a society of medicine, a special institute of legal medicine, comprised of members qualified in the various departments of surgery, chemistry, toxicology, psychiatry, etc.

In the way of suggestion for the consideration of the committee, it might be said that the Massachusetts

Medical Society, with the various subdivisions among its members, possesses the elements of organization out of which some plan, as above, might be evolved, which should serve to determine more definitely the status of a medical expert.

In regard to counter-expert testimony, it should be remembered that the expert testifies both to facts which are indisputable and opinions which may be questioned, based on such facts, which opinions are for the instruction of the court on technical points, and that, as society is now organized, it is almost certain that in any important or capital case both judge and lawyers will demand that such information shall come from more than one source.

The medical expert's testimony is received for its apparent value, like all other testimony. The question of suppressing counter-expert testimony was discussed at the congress. In Austria and Hungary the government appoints physicians who are employed solely as experts, and in case a counter-expert is demanded, either by the government or civil party, it was proposed that he should be chosen out of societies recognized by the state only. If the court found serious differences among the different experts, in final resort, it was suggested that the question should be adjudged by the Society of Legal Medicine, composed of representatives from all the various sections of medicine, in special convocation, summoned, presumably, by the state. In Hungary the laws require a counter-expert. The whole question was referred to a committee, as has wisely been done here, whose report was to be forwarded to the minister of justice. I am heartily in favor of cooperation with gentlemen of the legal profession in the discussion of this difficult question.

DR. BOLLES: It is perhaps to be regretted that Dr. Draper, in his interesting and very timely paper, does not carry his proposed change a step or two farther, and place the selections of experts more fully, even, in the hands of the court, to which alone they should be responsible. Both he and the society of medical examiners which he represents can count upon the support of this society in urging reforms sufficiently radical to do the work. It is a better plan in the beginning of such a movement to ask for what would be completely logical and effective than for what may fail, and bears, at any rate, evidence of being a compromise with the present bad condition. If, then, in the legislature, this best plan is rejected, and a compromise is passed in its place, we shall not be responsible for the failure to do all that is desired.

Another very important matter is the selection of experts. Not all physicians are suitable to fill such places. Some from lack of sufficient education, others from the more serious lack of the necessary qualities of temper or judgment, or mental equipoise, can never appear upon the stand to the credit of themselves or the profession. There would be advantages in having some suitable medico-legal examining board, that at stated times should examine and issue certificates to applicants as medical experts, either general or particular. These would then form a corps from which the court could select the most suitable in each case, or require the parties, if the reader's plan were carried, to do the same. If an important or disputed point arose, a second or even a third might be called to the assistance of the first. The attending physician, however, should, as he is obliged to testify, be eligible for the position of expert in his particular case.

The counsel of either side should still, as now, be perfectly free to employ partisan medical assistance in the management of the case or the examination of the expert, but should not be allowed to put such assistants on the witness-stand any more than they would themselves expect to be allowed to go there and testify in behalf of their clients as experts.

Dr. Bolles feared that without some entire change, such as this, the honesty and independence of expert testimony could not be assured.

Dr. NICHOLS thought that it was an error to suppose that an ignorant physician's testimony is taken for more worth than that of a scientific one. It is well known among lawyers which physicians are partisan and which are not so, and that the partisan's fee is one tenth to one twentieth less than where the testimony is unbiased. He supported the bill not so much for the good of the public as for the good name of the physicians.

Dr. FRANCIS called attention to a point not referred to in the paper under discussion,—that the medical expert is called upon for two distinct purposes: first, to serve the cause of justice by giving the court the benefit of his special knowledge; second, to assist the advocate in presenting his side of the case in the most favorable light. Perhaps it is as dignified for medical men to give this sort of assistance for pay as for lawyers to give their clients the benefit of legal quibbles and loop-holes. At any rate, lawyers require medical help of this sort, and call upon the man likely to give it to serve as medical expert. Unless provision is somehow made for medical help in the conduct of cases, the bill will surely be defeated by the lawyers.

Dr. WHITE remarked that, according to his experience, bills in favor of this reform had always failed from the opposition of the lawyers, and that he considered that the appointment of the experts should be in the hands of the judiciary.

Dr. BRADFORD presented for inspection a case of knock-knee, operated on by him with most excellent result, the feet now coming close together.

The patient, a child of eleven years, was unable to get her feet nearer together than thirteen inches. Osteotomy was performed, the chisel being driven three quarters of an inch through the bone on the outer side, the remaining bone then being fractured, the leg straightened, and the gap being allowed to fill up with granulations under an antiseptic dressing.

Dr. JOHN HOMANS briefly mentioned a case of ovariectomy which occurred two days before the meeting, and Dr. A. T. CABOT showed the cyst. Dr. HOMANS said that the patient was a married woman, forty-five years old. She had noticed the tumor first in April, 1880, and soon afterwards was attacked with violent abdominal pains, for the relief of which she laid on her stomach. Suddenly the tumor burst, and she was completely relieved, and thought herself cured. Soon, however, the cyst began to refill, and was removed on October 23d. There were no adhesions, but the pedicle was extremely short. It was secured by ligature and cauterization, and dropped back.

Dr. CABOT showed spots of commencing fatty degeneration in the interior of the cyst, and masses of warty or villous growth. The patient is rapidly recovering.

Dr. HOMANS mentioned that he had had fifteen successive recoveries after ovariectomy during the past summer, and twenty-two cases during the past eleven months, with but two fatal results.

Recent Literature.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Oesophagus, Nasal Cavities, and Neck. By MORELL MACKENZIE, M. D., etc. Vol. I. Diseases of the Pharynx, Larynx, and Trachea. Philadelphia: Presley Blakistoun. 1880. Pp. 570. octavo. New York: Wm. Wood & Co. (Wood's Library). 1880. Pp. 440, octavo.

An excellent book, as was expected from the long special experience and known literary skill of the author. The subjects of the present volume are thoroughly and at the same time concisely treated, and we think Dr. Mackenzie has succeeded admirably in crystallizing his experience into text-book limits. He has been able to treat the field uniformly, though, of course, he has a special interest and an enormous amount of material in certain parts of it. Illustrative cases are introduced sparingly, and only when needed. References to authorities are numerous.

Now that diseases of the throat have been cultivated as a specialty for many years, it is interesting to turn the leaves of this book to see what change may be found in the prognosis and treatment of affections formerly, and by older practitioners to-day, considered incurable. We find that the author considers simple chronic pharyngitis almost always curable, if the patient avoids the causes of the disease and submits to proper treatment. He must live in a dry, bracing atmosphere; his digestion must be attended to, and astringents used locally. In regard to granular pharyngitis, the author says that most cases of follicular disease of the pharynx get well under appropriate treatment, that is, as far as the troublesome sensations are concerned; but with respect to the vocal function the prognosis is not always so favorable, especially as regards public speakers, singers, etc., if the disease has existed many years. The vocal organ is extremely likely to remain permanently weakened, at least to such an extent as to interfere with its constant professional use. The exudative variety of the disease is much more difficult to eradicate than the hypertrophic form. In the treatment of granular pharyngitis Dr. Mackenzie destroys the enlarged follicles with London paste. In the exudative form of follicular pharyngitis the pharynx is scraped with the "pharyngeal curette," and a pointed stick of nitrate of silver is applied to each spot which discharges an abnormal secretion.

We confess that we are astonished to find (undoubtedly for the sake of simplicity) peritonsillar inflammation, parenchymatous and follicular tonsillitis, dispatched together under the head of Tonsillitis. It seems to us that these three affections differ so widely in pathology, clinical history, and treatment as to make a separate consideration of them necessary. For the removal of neoplasms of the larynx *per vias naturales* Dr. Mackenzie still prefers stout steel forceps.

No mention is made of the method, so popular in this country, of making applications to the pharynx and larynx with the long atomizing tubes and compressed air, instead of with the brush.

In the chapter on malignant tumors of the larynx the author says, in regard to extirpation of that organ that recourse may be had to this operation in cases which seem suitable, but that it should only be undertaken at the immediate request of the patient, after the subject has been fully explained to him in all its bearings.

In the chapter on Perichondritis of the Larynx the opinion of the author may be found in regard to another operation, which has been recently practiced a good deal in Vienna, namely, dilatation of stricture of the larynx. Dr. Mackenzie says, "In cases of syphilis and cut throat, or in any condition where the inflammatory process is arrested, dilatation of the contracted laryngeal passage may be subsequently effected, and there are various mechanical measures which may be resorted to. Since the year 1862 I have used an instrument for this purpose (see page 265), but must confess that the results have been disappointing. The thickening of the cartilages and in some cases the collapse of the cartilaginous frame-work from the falling inward of its walls, the density of the cicatrized tissues in syphilis, and the constant tendency which these fibrous structures show to recontract render treatment very tedious, and a relapse generally follows as soon as mechanical treatment is discontinued."

What to do First in Accidents or Poisoning. By CHARLES W. DULLES, M. D. Philadelphia: Pressley Blakiston. 1880. Pp. 64, vi.

This is a little book, designed for the non-medical public, of "simple and practical directions" how to act in emergencies. It is intended rather for previous study than for reference at the time of the accident. It is not meant by any means to make its students independent of the surgeon, but rather to instruct them what to do and what not to do before he comes.

To condense the necessary information into fifty-five pages, which are all the instructive portion of the book, needed great skill, and it has been accomplished at the expense of some faults and omissions, of more or less importance.

The author dwells upon the necessity of taking a drowning person out of the water and of cutting down a person hanging by the neck as preliminaries to attempts at resuscitation,—a praiseworthy minuteness which would not allow the wayfaring man, though devoid of ordinary intelligence, to err, and with which we are far from finding fault. Surely consistency would oblige the conscientious writer to give further cautions in regard to foreign bodies in the ear and nose than are implied only in the advice to make "reasonable efforts to remove them with a hair-pin." It is true we are told that these efforts should not be too prolonged, but the intelligent person who needs to be told to cut the rope by which his fellow-man is suspended needs also to be told of the dangers of improper interference with beans and peas in the ear, rather than of the great danger of their imbibing moisture and swelling unless immediately removed.

Any one following literally the otherwise admirable directions for artificial respiration might be confused when, after making a "good strong pull" for a "few seconds," he finds that the whole manœuvre of placing himself on his knees behind the head, seizing the arms and sweeping them round horizontally, with his few seconds' pull, should last altogether only three seconds.

A hint as to tight lacing and tight garments generally might not be out of place when treating of fainting.

In speaking of opium poisoning, a list of preparations of opium is given which should include morphia (it is mentioned nowhere else in the book); for surely morphia is as little likely to be sought for under opium by the public, to whom the book is addressed, as laudanum, black-drop, or soothing syrup. When, with a

little snap, the clergyman's "lower jaw-bone slipped out of joint," it may have left a gap in the clerical countenance, but our author is hardly justified in saying that a "tremendous gap" caused the dislocation.

Six pages are occupied by an admirable index, which of course adds greatly to the value of the book. On the whole, the book is fairly well adapted to the good end for which it was written.

Fracture of the Patella. By FRANK H. HAMILTON, A. M., M. D., LL. D., Visiting Surgeon to Bellevue Hospital, etc. New York: Charles Bertram & Co. 1880. Pp. 106.

Dr. Hamilton bases his conclusions upon the careful study and analysis of one hundred and twenty-seven cases of fracture, many of which were treated by him or under his supervision. The treatment has not been confined to any special method, though his own apparatus was employed in a number of the cases. A large majority of the results were good, and the profession are indebted to the author for his exemplification of the practical points demanding attention in the treatment of this troublesome lesion.

He believes that muscular action was the determining cause of the break in all but twenty of the cases, and states, "That the bone breaks most often in the lower third may perhaps be explained by some mechanical law, but I am not prepared to explain it." One anatomical fact will, we think, clear up this point in the ætiology of fractures of the patella.

There is a *transverse* ridge of bone extending across the posterior surface of the patella at right angles to the *vertical* ridge commonly described. This *transverse* ridge is hardly noticed by authors of anatomical works, prominence being given to the *vertical* ridge, which in many patellæ forms even less of an elevation on the surface of the bone. The two ridges cross at a point below the middle of the patella. Below and near the transverse ridge is the *insertion of the tendon of the patella* into the lower third of the bone. This fact, we believe, will account for the observation which Dr. Hamilton has made by fixing the spot where the greatest counter-extension is exerted, during an effort which requires a violent and sudden tension of the extensor muscles of the thigh.

By an ingenious experiment made under the direction of Dr. Hamilton, it is conclusively proved that the distance between the fragments is determined by the laceration which the aponeuroses of the muscles inserted into the patella have sustained.

He no longer advocates the use of his wooden inclined plane, for the reason that "it is unnecessarily cumbersome," and concludes that by any plan of treatment, in a large majority of cases, a fibrous union of the fragments is all that can be expected.

Malgaigne's hooks are stamped with disapproval, unless limited to cases of refracture, separation of the fibrous union, or where the distance between the fragments exceeds an inch and a half.

The treatment advocated by Dr. Hector Cameron, of Glasgow, which necessitates opening the joint and wiring the fragments together, is condemned, as "offering a very grave and dangerous substitute for other perfectly safe and, so far as yet proven, equally efficient methods; it is hazarding the life of the patient without offering any equivalent." Dr. Hamilton's book will make a valuable addition to the library of the practical surgeon.

H. H. A. B.

Medical and Surgical Journal.

THURSDAY, NOVEMBER 4, 1880.

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MILK AND WATER FOR BABES.

ANYTHING, we take it, may be considered as a proper standard to which to affix the adjective good, until experience has brought one into contact with something better. This trite reflection is suggested by the fact that an absence in the country during the summer has of late been terminated in the case of many of our town-dwelling people everywhere, and habit has not yet reconciled them or their children to the mixture of milk and water, colored with burnt sugar and ballasted by salt, for which they are called upon to pay six, seven, or even eight cents per quart. The householder again finds this inveterate old creature of the meadow, the middle-man, firmly fastened on his shoulders, either sucking his blood, or making sure that he has very little to suck. He casts furtive looks about him, and shakes himself vainly in hopes of being rid of his tormentor, but the most he arrives at is to exchange one vampire for another.

Honest farmers send honest milk to market, and it is tampered with by the distributor. Proprietors of country places have milk sent to them from their own cows in the country, and it is operated on *in transitu* in spite of locked cans. Very few people, however, can have their own cows in the country, and very few farmers think they can afford to be honest at three cents per quart for a better article than the peddler sells again for six or seven cents. In spite of all temptations to virtue, it would indeed be strange if, under these circumstances, the milk of the sick cow did not go in along with that of the others, and if the remaining conscience of the farmer did not seek to salve itself by practicing the first dilution of the poison; and from this stage to a thorough conversion of the farmer to the doctrine of *similia similibus*, and a hearty belief on his part that nothing is better for tuberculous consumers than tuberculous milk, is but a short downward step. Our attention has been called to new efforts, which we hope may not share the fate of so many preceding ones, started at this same season, by active brains, to circumvent all these wickednesses, and bring the producer and consumer of milk into mutually satisfactory and harmonious relations. Any individual or organization who may hit upon the way to accomplish this task is welcome to make money out of it, and, we have no doubt, will do so.

Really pure milk from healthy, well-fed cows is, after all, not dear food even at eight cents per quart, but water at four cents a pint is dear, even though pure and guiltless of typhoid fever, and milk from sick cows is not cheap at any price. The physiologist could not render the State a better service than by teaching the

public exactly what and how much danger is to be apprehended from the consumption of the milk of tuberculous cows. We commend the subject to the approaching hygienic tournament at Wellesley.

The milk consumption of Boston is large in proportion to its inhabitants. The city milk inspector in his last report states the number of gallons daily supplied to the city at 29,000, and the daily cost to consumers he estimates at \$6960; the number of gallons consumed, then, in one year would be 10,585,000, and the estimated cost to consumers for one year would be \$2,540,000. If we suppose that one quarter of this supply is diluted to the extent of sixteen per cent., — and we believe that we are far within the limits which actual investigations bear out, — then the inhabitants of Boston pay yearly about \$105,850, over and above their water rates, for about 423,400 gallons of water colored by a little burnt sugar and increased in specific gravity by a little salt.

The annual consumption of milk in London is estimated by an official of the Local Government Board, according to the *British Medical Journal*, at only 23,000,000 gallons; the cost is, however, on an average about five pence a quart. On this basis the annual expenditure of London for milk is estimated at £2,000,000.

Without taking into consideration the 700,000 or 800,000 gallons of pure milk now supplied annually by the Aylesbury Dairy Company, we find that Londoners are paying only £70,000 or £80,000 a year for their canned water. If it is any comfort to Boston to know that she disburses a quarter as much annually as the great city of London for this aqueous luxury, we respectfully offer her the reflection; if the inhabitants can afford it, we may class this expenditure with the harmless extravagances, except when typhoid fever is thrown in, which is not with every quart of water.

DEATH OF DR. EDWARD SEGUIN.

NEW YORK has lost a valuable member of the profession in Dr. Edouard Seguin, so well known in connection with the modern treatment of idiocy, who died at his residence in that city on the 28th of October. He was born at Clamecy, France, and was sixty-eight years of age at the time of his death. Soon after the completion of his studies at the colleges of Auxerre and of St. Louis, at Paris, he turned his attention to the subject of the education of idiots, and in 1839 opened the institution designed for this purpose which has been the model upon which seventy-five other similar establishments have been organized in various countries. He continued his studies and investigations in this department throughout his career, and at the time of his death was president of the association of medical officers in charge of institutions for idiots.

Dr. Seguin came to this country in 1848, and after remaining ten years in Ohio returned to France. When he came to America again, he settled in New York, and continued to reside there up to his death. Altogether he aided in the establishment of eleven schools for idiots in the United States. In addition to a number of works on the treatment of idiocy, among

his published writings are the following: Prescription and Clinical Records, 1865-77; Mathematical Tables of Vital Signs, 1865-77; Official Report on Education at the Vienna Exhibition of 1873, published in 1875; and International Uniformity in the Practice and Records of Physic, 1876. He was an enthusiastic advocate of the universal adoption of the metric system, and was also especially identified with the subject of medical thermometry and human temperature, to which he devoted much time and study, and upon which he wrote his best known and most valuable book, which was published in 1876. At the last meeting of the American Medical Association he read a paper on The Physiological Training of the Idiotic Hand.

MEDICAL NOTES.

— Of *The Specialist*, a new English journal, whose title indicates its purpose, the *Medical Press and Circular* remarks: "Since the publication of our last column of Literary Notes, a new monthly journal, called *The Specialist*, has been issued by Messrs. J. & A. Churchill. Years ago the prospectus of a publication bearing the same title was issued by the late Dr. Yearsley, but, failing the support anticipated, the idea was never carried out. As a commercial speculation it is manifestly impossible for special journals in the profession to succeed, and the editor of *The Specialist* in his first leader would hardly lead readers to suppose he expected a great future for his bantling,—*Tempus omnia revelat.*"

— Is there any comfort to be derived from the following confession of the *Medical Press and Circular*? "The author of the Guide to European Universities, Dr. Hardwicke, of Sheffield, has been induced, by the success of his pamphlet, to reproduce the information therein conveyed in book form, together with the results of his inquiries into other systems of education, and other countries than Europe. Here the reader will find information respecting the educational bodies, examinations, and medical laws of every civilized state, and he will also come to the humiliating confession that though there exist a good many time-honored institutions in the United States, and an anxiety to put matters on a scientific footing in others, yet farther South the condition of medicine is as bad as can possibly be imagined. Bankrupt bakers, grocers, and others who have failed to make a living, afterwards start as 'doctor,' and soon get into *full practice*, by parading their names before the public, through the medium of the daily papers and street placards, with 'Dr.' and 'M. D.' attached to them, without a word being said by the authorities. All this is very humiliating, but we could show our author identical counterparts in London, Birmingham, Glasgow, and other large cities, without a word being said by the authorities. But they, not Dr. Hardwicke, are responsible for this, and we cordially thank him for his decidedly useful addition to our knowledge of medical education in other countries."

— We find this characteristic item in the *Medical*

and *Surgical Reporter*: Dr. Oliver Wendell Holmes says, in a letter to a member of the English Spelling Reform Association: I should not care to be an obstructive (if I could be) in the way of any well-organized, scholarly attempt to reform our English and American language. But you must allow a fair share of old square-toed prejudice in their personal likings to old square-toed people. I hate to see my name spelled *Homes*, yet I never pronounce the L. I know from old Camden that its derivation is from the word *holm*, and I want the extra letter.

— A successful case of gastrotomy is reported by Dr. Elias in the *Deutsche medicinische Wochenschrift*. The subject was a man, aged forty-eight, reduced very greatly by stricture of the oesophagus. The collapsed stomach was found with much difficulty during the operation; it was fastened to the abdominal wall, and opened on the fifth day, when union was perfect. The patient was allowed to go out twelve days after the operation, and nutrition of the body rapidly improved.

— Xylotherapy, or the application of various woods to control the morbid sensibility of the skin in hysteria, is said to be a successful rival of metallotherapy in Paris at present. Of the woods experimented with, the bark of the yellow cinchona is thought to possess the most powerful *æsthesiogenetic* influence.

— Wanted to buy, a good second-hand doctor's buggy cheap. Address Doctor, care —.

A "good second-hand doctor" is a *rara avis*. His buggy, to say the least of it, must be a mis-carriage. — *College and Clinical Record*.

— The English now turn to America as a refuge for consumptives. At the close of a review of Denison's book on Colorado, the *British Medical Journal* says: "It might be worth the while of many English consumptives, especially in cases where the disease has an inflammatory origin, who have undertaken long sea-voyages, to try the Colorado district of North America."

— The same journal, in an editorial on our State Board of Health, says: A medical contemporary is singularly misinformed when it refers to the change which has recently come over the Massachusetts Board of Health as one of "transformation" merely, and when it speaks of the old board's reappearing "in a more influential form" as the new State Board of Health, Lunacy, and Charity. The actual facts tell an exactly opposite tale. For something like eleven years the old board of health worked energetically and manfully, often against very great odds, in improving the sanitary state of Massachusetts, and in collecting information on sanitary subjects. Its reports have long been known and admired as standard books of reference, and a mere glance at the index of the final report shows the multiplicity and variety of subjects dealt with in them. The board consisted of seven members, one of whom was the secretary, a salaried officer, but having an independent vote, as any other member. Two physicians, one lawyer, one engineer, and two business men, with this secretary, composed it. The board met quarterly, or as often

as necessary, and summarily, efficiently, and harmoniously labored for the objects for which it was appointed. Last year, for political and supposed economical reasons, the boards of health and of charities were both abolished, and one board, entitled the Board of Health, Lunacy, and Charity, was substituted for them. The care of the charities of the State occupies nearly the whole time of the monthly meeting of the new board, and would prevent almost any sanitary work if the board had not committed that portion of its duty to the care of three members of the former board, who now virtually constitute the whole board of health. But even this is not strictly correct, because all the doings of the three departments of health, lunacy, and charity must be reported, discussed, and perhaps set aside by the full board. Dr. Bowditch, one of the ablest sanitarians in the States, and an active member of the old board, has resigned his position on the new board, as a solemn protest against the "grotesque, unstatesman-like conglomeration of diverse duties of work, wholly inconsistent with each other," which it exhibits. So glaring and mischievous an instance of retrograde legislation has not been witnessed for some years, and it is to be hoped that the State will see fit to restore the old board to its former high position before its influence has entirely faded away.

— Dr. Wilm, of whom it is said that he was the greatest operating surgeon of Germany, recently died in Berlin from blood poisoning, which proceeded from an injury sustained during the performance of an operation.

— A correspondent of the *Press and Circular*, Dr. Madras, thus describes his method of removing a nævus: "I vaccinate the nævus with liquid vaccine lymph, from which inflammation sets in, and in ten days, instead of the purple appearance of the nævus, you have a white cicatrix. I wish that all medical men would follow my plan in vaccinating infants with nævus by vaccine lymph."

— The *British Medical Journal* copies the following from the *Pall Mall Gazette*: The experiments, begun ten or twelve years ago, for naturalizing in certain parts of India the best varieties of the cinchona or Peruvian bark tree have been attended with the most remarkable success, and with beneficial effects still more remarkable. In the treatment of the fevers and other forms of disease endemic in India the employment of quinine has always been a chief means of cure and of prevention. But the increasing demand had raised the cost of the imported drug to a point which rendered its use impossible to millions and tens of millions of the poorer classes of India. Hence it occurred to a few of the more enterprising spirits in the Indian government that vigorous efforts should be made to acclimatize the cinchona-tree itself in certain districts of India and in Ceylon. The experiments have been entirely successful, and there are now, in various stages of growth, probably millions of cinchona plants already yielding the Peruvian bark so plentifully and so perfectly that the price of quinine has fallen in Ceylon and other parts to about two rupees (3s. 6d.) the

ounce, and to fifty cents the ounce for preparations of a diluted strength; and there is the strongest possibility, amounting to certainty, that in six or seven years the Indian production of quinine will be so large and the price so low that it will become a considerable article of export; bearing in mind that every fall in price means extending use in India in the cure and prevention of fever and disease, and therefore the cure and prevention of want and suffering among the poorest class of the native population.

NEW YORK.

— The annual meeting of the Medical Society of the County of New York was held on Monday evening, October 25th, when the usual reports of the various committees were read and received. Dr. John C. Peters presented the report of the committee on hygiene, in which special attention was directed to the condition of the streets as affecting the health of the city, and Dr. Edward G. Janeway, commissioner of the board of health, read an analysis of the vital statistics of the city for the preceding year. The annual election of officers resulted as follows: president, Dr. Alfred E. M. Purdy (reëlected); vice-president, Dr. Frederick A. Castle; secretary, Dr. Wesley M. Carpenter; assistant secretary, Dr. P. Brynberg Porter; treasurer, Dr. Orlando B. Douglas (reëlected). Thomas A. McParlin, M. D., brevet brigadier-general and surgeon United States army, and Prof. George Edward Rindfleisch, of the University of Würzburg, were elected honorary members.

A number of changes in the by-laws, approved by the comitia minora, were voted upon, and the following resolution, proposed by the committee on ethics, was carried:—

"That it is contrary to the dignity and interests of the medical profession for any member thereof to affix his name to any certificate, circular, or advertisement of any drug, nostrum, mineral water, wine, or other proprietary article intended to be used as a medicine or remedy in disease, or to any patented instrument or appliance that is intended for medical or surgical use.

"That the manufacture, advertising, or sale by any member of this society of any of the articles above enumerated is also contrary to the dignity and interests of the medical profession."

— The annual general inspection of the Mount Sinai (Jewish) Hospital by its patrons and friends was held on Sunday, October 24th, the entire building being thrown open to visitors from eleven A. M. to five P. M. There are in the institution at present one hundred and twenty-four patients, only two of whom are pay-patients. Thirty-five per cent. of the inmates are Christians, and no questions concerning their religious belief are ever asked by the hospital authorities of those applying for admission. The hospital was organized in 1852, and the present buildings, at the corner of Lexington Avenue and Sixty-Sixth Street, were first occupied in June, 1872. Since the first organization the hospital society has cared for 17,341 patients. During the past year the

expenses of the institution were \$56,000, of which \$52,000 was subscribed by Hebrews, while \$3975 was received from the excise fund. In connection with the hospital there is an out-door department, from which about forty thousand patients have received free attendance and medicine during the year.

— The annual meeting of the directors of the New York Eye and Ear Infirmary was held on the evening of October 27th. The expenses of the hospital were \$12,639.71, and the resident physician's report showed that during the last fiscal year the total number of patients treated was 12,157,—the largest number treated in any one year since the founding of the institution.

No changes were made in the staff of consulting and visiting surgeons, except that Dr. Robert F. Weir was appointed to replace Dr. Charles M. Allin, deceased. In the aural department Dr. Albert H. Buck had resigned, but was prevailed upon to retain his position on condition that he should be granted relief from duty for one year.

— At the last monthly meeting of the Children's Aid Society it was announced that Dr. Willis James, one of the trustees, had given \$10,000 to found a summer sanitarium, to be conducted under the auspices of the society.

Miscellany.

LETTER FROM LONDON.

MR. EDITOR,—The dispute between the medical and the lay authorities at Guy's Hospital has entered upon a fresh and acute stage. A letter written on behalf of the whole staff, and signed by Dr. Habershon, the senior physician, and Mr. Cooper Forster, the senior surgeon, was a short time ago sent to the governors, and in consequence of the tone assumed by the writers the two gentlemen who have signed it were called upon yesterday by a large majority of the governors to send in their resignations. Should they refuse to resign, the governors will have no choice but to dismiss them, and whether they resign or are dismissed, the rest of the staff must necessarily go with them. The letter in question was doubtless stronger in its terms than was justifiable under the circumstances, and stronger than it is ever desirable to make a letter unless open war has been determined upon. In this respect it was in marked contrast to a temperately worded reply sent by the governors to a memorial presented them by the guardians of one of the neighboring parishes, in which memorial the guardians regretted the condition of semi-paralysis to which the hospital was reduced by these internal dissensions. The governor's reply was a business-like and dignified communication, and it is greatly to be regretted that this tone has not been adopted in other communications that have been exchanged between the contending parties. The letter from the staff, above referred to, has brought matters to a climax: it contained passages which the governors could not allow to pass without challenge; any modification of these passages was refused by the members of the staff who had signed the document, and the governors had consequently no course open to them but the one they have adopted. The staff would thus appear to have made a

decidedly false step. They can scarcely do now what they refused to do before; yet to resign must mean, at any rate for the younger members, the blighting of their prospects of a brilliant career in London; or, to say the least, a considerable check in that career. On the other hand, the governors have embarked upon a career the end of which is perfectly clear, and they must be supposed to have done so with their eyes open, and with a full determination to carry it out to the end. Consequently, unless some very influential mediator steps in, to arrest the rapid current, there can be little doubt that the end of this phase of the quarrel is approaching, and that the end will be, as I foreshadowed in a previous letter, unfortunately to the detriment of the doctors. It is greatly to be deplored that the crisis has been brought about in the way I have described, because the tone adopted by the staff in their communications with the governors has to some extent tended to alienate general public opinion from their side. So long as public opinion was not actively against them, it afforded an assurance that no great injustice would be done, but with public opinion against them they have to rely upon themselves alone in their difficult fight; and although so large a body of men of the highest eminence in their profession must necessarily have great power when acting together, yet this power will avail little in a struggle of this kind. In using the word "injustice" I do not mean to imply that the governors would deliberately commit an act of injustice; but at the same time, if the quarrel is allowed to reach the final stage and to terminate in the dismissal of the whole staff, a grave injustice will be done. The injustice is great toward the senior members of the staff, who have devoted a very considerable proportion of their lives to the institution, and who have done their work in the most conscientious manner; but it is still greater towards the junior members of the staff. The seniors may be said to have reached the position in the profession due to their ability and labors; with them, therefore, it is a question of justice in the abstract, for their worldly position will be unaffected by the severance of their connection with the hospital. With the juniors it is far different. The position they hold in connection with the hospital and school is the reward of many years of arduous work and patient waiting. Under ordinary circumstances, having obtained a position on the staff, they have but to bide their time to achieve complete professional success. If the governors are allowed to dismiss the staff as a body, these younger men lose their hard-earned positions at a time when they can little afford to do so; and their chances in life are gravely compromised. Thus, there is a danger that some of our ablest and most deserving young doctors may be sacrificed to an idea; and this for no fault of their own, but because, in common with men many years their seniors, and whose opinion is certainly deserving of weight, they have ventured to differ from the governors of the hospital on certain matters of detail connected with the nursing. This is what the question resolves itself into when looked at dispassionately, and the injustice is so manifest that it would be impossible for matters to reach this point if public opinion were calm and unprejudiced. But public opinion is easily excited in favor of or against either party in a dispute by the method in which the dispute is carried on. If one of the parties be calm and self-possessed, and the other passionate, public opinion is generally in favor of the calm disputant as against the passionate. And so, I

fear, it is in the present case, and that the doctors have done their cause a great deal of harm by having allowed themselves to use stronger language than was advisable. Had they maintained a quiet and dignified attitude there can be but little doubt that some peace-maker would ultimately have been found to help both parties out of the false position into which they had drifted. It may be that some such mediator will yet present himself, but it is certain his task will now be a far more difficult one than if the gauntlet had been less decidedly thrown down and less hastily taken up.

NOTE.—The publication of our correspondent's letter has necessarily been delayed. As most of our readers already know, the result which he foresaw has now taken place. This confirmation gives an additional interest to his forebodings. — ED.

DR. HEWSON ON SUBSTITUTES FOR ADHESIVE PLASTER.

MR. EDITOR,—Since your publication of my article on Substitutes for Adhesive Plaster (in your issue of October 7th) I have learned by letters received, not only through your office, but by direct mail to my own, that quite a number of the readers of your valuable journal were anxious for more detailed information on various points on the subject; and as I therefore presume there are many others in the same plight I deem it best to answer all the questions so presented by note in your journal, if agreeable to you.

In doing this, I would first of all recall the fact that the article had been prepared for and was read before a society, where terseness and brevity are always desirable. To accomplish these purposes, and yet be as accurate as possible, especially as regards the mode of preparing the *liquid glue*, I had sought from Mr. H. Campbell, the pharmacist in my immediate neighborhood, and who had made all my preparations, an accurate account of the way in which this one was made. From his account I drew up the statements in my article, and I submitted them to a thorough criticism by him before I was satisfied to use them; for my purpose, throughout the composition of the paper, was always to be as *explicit* and as concise as possible. A more extended account might have made the paper more intelligible.

Most of the points on which further information has been sought of me are clearly traceable to my brevity of statement. Thus, some have noticed that I did not state whether *fluid* or *solid* measure was intended in determining the quantities of the two ingredients for the *liquid glue*. Such a statement I had not deemed necessary, for, in the first place, the acetic acid (the twenty-five per cent. article) is known generally to weigh sixteen ounces to the pound; no difficulty could therefore occur by using *dry-weight* measure. Again, in the closing paragraph of my article, I have stated, in reference to an *impromptu* method of making this glue, "By having water in a tin cup on the fire so that it boils, and putting a bottle containing one part of glue to four, by measure, of the acid, and letting the bottle remain in this bath until the glue is fully dissolved and mixed with the acid." Aid in the mixing, in this as well as in the earliest mode of the preparation, might have been stated to be derived by frequent stirring with a glass rod. Such a statement, it seemed to me, was hardly necessary; as I, however, had watched various

details, I might so have been led to such an omission from this very familiarity.

On carefully reading my article again, I find answers to all the other points raised equally well implied. The statement made by a correspondent that glue cannot be melted without being mixed with some water I am confident is incorrect. I consider such careful preparation as essential in order to fit it to take the place of collodion. Respectfully, ADDINELL HEWSON.

ABSENCE OF LOCHIA.

MR. EDITOR,—During the first week in February, 1876, I was engaged to attend Mrs. A. P., who expected to be confined during the latter part of March succeeding. The first of March I called at the house, partly to make the lady's acquaintance, and partly to form some opinion of the case I should have to deal with.

I found her to be an American woman, thirty years old, who had been married about five years, and was the mother of one child, a boy, three years of age. She was tall and thin, light complexioned, and of nervous temperament. She was an active individual, and with little help performed the in-door work of a good-sized farm.

When questioned about her health, she replied that, although she had done her usual work, she did not feel as strong as formerly. Work seemed to drag heavily. To use her own words, "she was not nearly so smart as when carrying her first child." She had a pretty good appetite. She asked me, as her abdomen was large, if I did not think she was to have twins. Auscultation not revealing signs of more than one foetal heart, I told her that her unusual size was, very probably, due to the large amount of amniotic fluid. Her limbs were not swollen and there was no marked puffing about the conjunctiva. The urine contained only a very small quantity of albumen. Her pulse beat 82 a minute and was weak. She repeated the statement, formerly made by her husband, that "she expected to be sick" the last week in the month.

Two days after the above-mentioned visit, I was called upon at about ten A. M. by a messenger, who told me that Mrs. A. P. was needing my services immediately. I hastened to her house, reaching it about half an hour after the receipt of the message, and found her suffering with severe bearing-down pains. Examination revealed a vertex presentation, with the head rapidly descending, and every sign of a speedy delivery. I asked if there had been any show, and received a negative answer. The abdomen had diminished in size since my last visit. The woman said that it had been growing smaller since the previous morning, but that the water had not come away from her in any great quantity.

In ten minutes after my arrival the waters broke, and in five more the child was born. It was a female, and when dressed weighed five pounds. After the birth, there was no loss of blood whatever. Within fifteen minutes the placenta was removed, but no blood came with the placenta. The placenta was very small, and the cord looked shrunken. I used my hand externally in compressing the uterus, to expel clots and assist in the firm contraction of that organ. The uterus was contracting in a satisfactory manner.

The woman said she was not flowing at all, and vaginal examination showed the truth of the statement. There was a slight colorless discharge, which somewhat moistened but did not stain one napkin. Much perplexed and alarmed, I felt her pulse, and found it 100; soft and weak, but readily counted. Her temperature was 100° F. There was no tenderness anywhere about the abdomen. She was very lively and said she felt quite comfortable. I remained with her until late in the afternoon, and no alarming symptoms having appeared thought it safe to leave the house.

I called early the next morning, and found the patient quite comfortable. Her pulse was 90, her temperature 99°. She had slept a good part of the night, and had passed urine twice. There had been no lochial discharge nor any signs of it. There were no symptoms of inflammation about either uterus or ovaries.

The third day there was a very profuse secretion of milk, which was of extremely poor quality. Indeed, so watery and thin was this secretion that it was thought best to feed the child for a few days with cream and water, at least a part of the time. The patient was given full doses of citrate of iron and quinine, with sherry wine, for a month, and they were well borne. After a week from the time of its first appearance, the lacteal secretion so much improved in quality as fully to satisfy the infant.

The patient sat up on the tenth day after confinement and gained steadily from that time on. Eight months after the birth of the child she began to menstruate again, but at and immediately after child-birth there was no such discharge as is generally seen at these times.

Two years from the time above mentioned she gave birth to another daughter. On this occasion she flowed as profusely as any woman does at such a time, and the lochial discharge took its natural course. Yours truly,

GEORGE A. ORCUTT, JR., M. D.

ESSENTIAL ELEMENTS OF REGISTRATION OF VITAL STATISTICS.

DR. E. HARRIS, secretary of the New York State Board of Health, and superintendent of the Bureau of Vital Statistics, publishes the following as a concise statement of the elements of registration which are essential and obligatory:—

Requirements for a perfect registry of a death, a birth, or a marriage should be clearly understood by all persons who have anything to do in making up the records which are registered as vital statistics; and it is desirable that no more should be asked for and entered in the public registers of birth, marriage, and death than is necessary for making the record so complete that each of the registered events (whether of birth, marriage, or death) shall correctly identify the individual and the essential facts in the record. While each of these three epochs in a human life should be so registered as to protect the rights of a personal and family record of each individual, the comparison of any two, or the three, of these separate but corresponding parts of the vital registry should completely verify each other in certain essential particulars, and with un-failing certainty identify the individual, the family, and the civil estate or social condition of the person. This may be best explained by viewing at one glance all

the essential points in the public registration of a birth, a marriage, and a death. These few points, being *essential*, are justly regarded as *obligatory* in the certificates and returns that are registered in the bureau of vital statistics.

	Birth.	Marriage.	Death.
1	Name and date.	Names and date.	Name and date.
2	Birthplace and residence (of parents).	Birthplace, residence (and place).	Birthplace, residence (and place.)
3	Names and birth-places of parents.	Names and birth-places of parents.	Names and birth-places of parents.
4	Sex, and race other than the white.	Other race than the white.	Sex, and race other than the white.
5	Paternal occupation.	Occupations.	Occupation (paternal, if an infant).
6	Parents' ages.	Ages.	Age.
7	Child's number in this family. — by this mother?	Social estate (état civil).	Social estate (état civil).
8	Attestation of the event and its record.	Attestation of the event and its record.	Attestation of the event, its causes, and the record.

Under the eight heads, as given in this view of the scheme of public registry, we arrange all parts of the record necessary for complete *identification* of the individual and the family. At the same time the full statements under these heads will supply the information which constitutes the science of vital statistics. All *forms of certificates* and all *methods* of returns and registry in the state system of vital statistics should be simple and comparable.

TREATMENT FOR TEETH WHICH ARE SENSITIVE DURING EXCAVATION.

BY WILLIAM HERBERT ROLLINS.

I HAVE found the following preparations of value:—

Ry Chloroform 20.0 cubic centimetres.
Cosmoline 10.0 grammes. M.
Signa No. 1.

Heat 200.0 grammes of glycerine for one hour to drive off the water. After cooling put it into a bottle, and close with a rubber cork.

Use this glycerine for the following:—

Ry Glycerin 2.0 grammes.
Acid. pyrogallic 1.0 grammes. M.
Signa. To be mixed fresh every morning, and kept under a bell glass with sulphuric acid or calcium chloride.

Directions: (1.) Dry the cavity in the tooth, and keep it free from saliva during the excavation.

(2.) Apply mixture No. 1.

(3.) Apply mixture No. 2.

(4.) Excavate.

(5.) Repeat the application as the tooth again becomes sensitive.

(6.) Vary the strength of No. 2 if it causes pain.

Boston, September 1, 1880.

TAKING IMPRESSIONS FOR MINERAL TEETH.

I HAVE sometimes attempted to take an impression preparatory to making an artificial denture, and failed because imagined suffocation, nausea, or vomiting made the removal of the impression tray necessary before the material had set.

In such cases the patient generally refuses to have another attempt made. Therefore if the teeth made on this imperfect impression do not fit, the patient will usually be obliged to go without teeth, for in the ordinary process the impression is destroyed; at least in partial dentures, and in whole dentures unless the impression was made in plaster of Paris.

In these difficult cases I find the following method of value:—

Trim the imperfect impression as well as you can, varnish and black-lead it. Make an electrotpe from it. Use this electrotpe, after its manifest defects have been remedied with suitable files and burrs, as a basis for a plaster model.

If the teeth made on this impression do not fit, the copper model can be trimmed at the defective places and other impressions taken from it until a satisfactory one is made.

If the defects in the original impression were marked, the electrotpe will need much trimming;

therefore, in these cases it is best to make a base plate from it in gutta percha, and after coating this with rouge in oil try it into the mouth. After removing, alter the electrotpe by the information so obtained, repeating the process as often as necessary.

This method of electrotyping is of much value also where dies are required, as in making mineral teeth with a gold base, for with it the male die can be made much more perfect than by casting.

WILLIAM HERBERT ROLLINS.

Boston, Mass.

CORRECTION.

MR. EDITOR,—In the review of the Transactions of the American Gynecological Society, Vol. III., in the JOURNAL, September 30th, owing to an omission, the author of Measurements of the Uterine Cavity in Childbed, Dr. A. D. Sinclair, is not accredited with what most justly belongs to him. His name should be associated with that of Dr. Richardson, as follows: "Being the result of a series of carefully conducted examinations by the author and Dr. W. L. Richardson at the Boston Lying-In Hospital. W. H. B.

Boston, October 22, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 23, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Scarlet Fever.
New York.....	1,209,561	570	228	24.91	10.88	14.21	6.31	2.63
Philadelphia.....	901,380	298	104	14.43	5.37	5.70	—	1.34
Brooklyn.....	564,400	250	112	31.60	21.60	10.80	4.40	.80
Chicago.....	503,298	—	—	—	—	—	—	—
St. Louis.....	—	128	53	25.78	6.25	7.03	13.28	.78
Baltimore.....	393,796	182	68	25.82	4.39	6.04	4.39	8.79
Boston.....	363,938	162	56	19.14	11.11	10.49	4.32	—
Cincinnati.....	280,000	92	28	18.48	5.43	9.80	5.43	5.43
New Orleans.....	210,000	104	39	27.88	3.85	5.77	6.73	—
District of Columbia.....	180,000	69	31	26.09	10.14	8.70	5.80	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	53	25	37.74	18.87	11.32	1.89	15.09
Buffalo.....	155,159	48	20	25.00	14.58	10.41	—	—
Milwaukee.....	127,000	51	24	39.22	21.57	7.84	5.88	1.96
Providence.....	104,862	32	9	18.75	—	21.88	6.25	3.13
New Haven.....	63,000	18	5	16.67	5.56	—	—	—
Charleston.....	57,000	—	—	—	—	—	—	—
Nashville.....	43,543	13	1	23.08	7.69	7.69	15.38	—
Lowell.....	59,340	22	11	18.18	13.64	—	4.55	—
Worcester.....	58,040	20	8	45.00	10.00	—	5.00	15.00
Cambridge.....	52,860	12	2	16.67	—	—	—	—
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	19	6	—	—	5.26	—	—
Lynn.....	38,376	17	9	35.30	11.76	—	17.65	—
Springfield.....	33,536	14	4	7.14	7.14	—	—	—
Salem.....	27,347	5	4	60.00	40.00	—	20.00	—
New Bedford.....	27,268	12	4	33.33	16.67	—	8.33	8.33
Somerville.....	24,964	7	2	—	—	—	—	—
Holyoke.....	21,961	8	3	25.00	—	12.50	—	—
Chelsea.....	21,780	6	2	50.00	33.33	—	—	—
Taunton.....	21,145	3	1	—	—	—	—	—
Gloucester.....	19,288	6	5	33.33	16.67	—	—	16.67
Haverhill.....	18,478	7	5	14.29	14.29	14.29	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	5	0	80.00	40.00	—	—	20.00
Fitchburg.....	12,270	4	—	50.00	25.00	25.00	—	—
Twenty Massachusetts towns.....	156,042	48	18	16.67	8.33	6.25	6.25	—

Deaths reported 2285 (no returns from Chicago or Charleston); 886 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 554, consumption 336, diphtheria and croup 235, lung diseases 213, diarrhoeal diseases 114, scarlet fever 59, malarial fevers 46, typhoid fever 44, whooping-cough 18, cerebro-spinal meningitis 13, small-pox 12, erysipelas eight, measles five. From *malarial fevers*, New York and New Orleans 12, Brooklyn and District of Columbia six, St. Louis three, Buffalo and Milwaukee two, Baltimore, New Haven, and Holyoke one. From *typhoid fever*, Baltimore nine, New York seven, Philadelphia five, New Orleans four, Brooklyn, Boston, and Providence three, Buffalo and Worcester two, Cincinnati, Pittsburgh, Cambridge, Lynn, Newburyport, and Fitchburg one. From *whooping-cough*, New York and Baltimore four, Philadelphia three, Brooklyn two, St. Louis, Boston, Cincinnati, District of Columbia, and Milwaukee one. From *cerebro-spinal meningitis*, New York and St. Louis three, New Orleans two, Philadelphia, New Haven, Worcester, Holyoke, and Chelsea one. From *small-pox*, Philadelphia 11, New York one. From *erysipelas*, Philadelphia three, New York two, Baltimore, Buffalo, and Marblehead one. From *measles*, Boston and Milwaukee two, Brooklyn one.

Ninety-three cases of diphtheria, 23 of scarlet fever, five of whooping cough, two of typhoid fever, and one of measles were reported from Brooklyn; diphtheria and scarlet fever six, yellow fever two, in Boston; scarlet fever 24, diphtheria 15, in Milwaukee; diphtheria six, scarlet fever three, typhoid fever one, in Providence; diphtheria four, scarlet fever three, typhoid fever one, in Cambridge; scarlet fever nine, diphtheria four, in New Bedford.

In 37 cities and towns in Massachusetts, with a population of 1,009, 71 (population of the State 1,783,812), the total death-rate for the week was 19.53, against 21.23 and 22.35 for the previous two weeks.

Total deaths, deaths under five years, and deaths from diphtheria and croup and lung diseases increased; deaths from diarrhoeal diseases and typhoid fever diminished.

For the week ending October 2d, in 149 German cities and towns, with an estimated population of 7,767,599, the death-rate was 25.1. Deaths reported 3793; 2044 under five: pulmonary consumption 458, acute diseases of the respiratory organs 190, diphtheria and croup 145, scarlet fever 95, typhoid fever 77, whooping-cough 61, measles and röteln 22, puerperal fever 16, typhus fever (Berlin) three. The death-rates ranged from 15.3 in Barmen to 41.8 in Dusseldorf; Königsberg 25; Breslau 22; Munich 24.4; Dresden 27.7; Berlin 29.8; Leipzig 20; Hamburg 24.2; Hanover 23.1; Bremen 15.7; Cologne 31.9; Frankfurt 16.4; Strasburg 21.6.

For the week ending October 9th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 27.7. Deaths reported 3118: diarrhoea 281, acute diseases of the respiratory organs 266, scarlet fever 141, fever 68, whooping-cough 60, measles 35, diphtheria 27, small-pox (London) five. The death-rates ranged from 15 in Plymouth to 35 in Leicester; Birmingham 17; London 20; Leeds 21; Bristol 22; Manchester 23; Liverpool 31. In Edinburgh 21; Glasgow 20; Dublin 33.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 28 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 15, typhoid fever nine, diphtheria and croup five, whooping-cough three, scarlet fever two, measles two.

CORRECTION. For the preceding week the total deaths in German cities should have been 3793; a similar error in previous reports may be corrected by the death-rate, which is right.

The meteorological record for the week in Boston was as follows:—

	Barom-eter.	Thermom-eter.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.			
Date.																						
1880.	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	8 P. M.	9 P. M.	Mean.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	7 A. M.	8 P. M.	9 P. M.	Duration.	Amount in inches.
Oct. 17	29.803	61	77	52	89	56	100	82	SW	S	C	11	15	0	F	F	R	4.50		.17		
" 18	30.162	45	58	40	75	33	58	55	W	W	W	8	14	9	C	F	C	—	—	—	—	—
" 19	30.281	43	57	35	81	32	51	55	W	W	W	10	10	4	C	F	C	—	—	—	—	—
" 20	30.350	45	57	38	48	46	60	51	W	E	S	4	4	7	O	C	C	—	—	—	—	—
" 21	30.330	49	61	40	68	67	86	74	S	SE	SE	1	14	7	O	O	H	—	—	—	—	—
" 22	29.958	48	55	45	93	100	92	95	C	E	NE	0	12	23	O	B	R	12.20		1.47		
" 23	29.511	51	66	46	78	57	62	66	W	W	W	17	12	12	C	F	F	5.20		.25		
Week.	30.056	49	77	35					W	W	W							22.30		1.69		

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 23, 1880, TO OCTOBER 29, 1880.

SPENCER, W. C., major and surgeon. Assigned to duty at Fort Snelling, Minn. S. O. 129, Department of Dakota, October 25, 1880.

WHITE, C. B., major and surgeon. To report in person at the expiration of his present leave of absence to the adjutant general of the army for special duty in connection with the recruiting service. S. O. 229, A. G. O., October 25, 1880.

CALDWELL, D. G., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Fred. Steele, Wy. T. S. O. 98, Department of the Platte, October 20, 1880.

CUNNINGHAM, THOMAS A., captain and assistant surgeon. Granted leave of absence for two months, with permission to go beyond sea. S. O. 227, A. G. O., October 22, 1880.

BURTON, H. G., first lieutenant and assistant surgeon. Granted leave of absence for six months, with permission to apply for one month's extension. S. O. 230, A. G. O., October 26, 1880.

BOOKS AND PAMPHLETS RECEIVED. — Croonian Lectures on some Points in the Pathology and Treatment of Typhoid Fever. Delivered at the Royal College of Physicians of London, by William Cayley, M. D. London: J. and A. Churchill. 1880.

Syphilitic Degeneration of Arteries as a Cause of Aneurism, with a Report of two Cases. By Norman L. Snow, M. D. (Reprint.)

Enumeration, Classification, and Causation of Idiocy. By Isaac N. Kerlin, M. D. (Reprint.)

The Eighth Annual Report of the Charlestown Free Dispensary and Hospital.

The Compend of Anatomy for Use in the Dissecting Room. By John B. Roberts, M. D. Philadelphia: C. C. Roberts & Co. 1881.

Report of ten Cases of Gastric Ulcer, one Case Malignant Ulcer of the Stomach, and two Cases Perforating Ulcer of the Jejunum. By A. Van Der Veer, M. D. (Reprint.)

On the Relations of the Placenta to Post-Partum Hemorrhage. By Walter Coles, M. D. (Reprint.)

An Obstetrical Case; Intra-Uterine Amputations. By Walter Coles, M. D. (Reprint.)

Lectures.

CLINICAL INSTRUCTION: ITS REAL IMPORT AND ITS METHOD.

BEING AN INTRODUCTORY LECTURE TO A COURSE OF CLINICAL MEDICINE, 1877-78.

BY W. T. GAIRDNER, M. D.,

Professor of Practice of Medicine in the University of Glasgow.

A FEW days ago I had occasion to discuss, elsewhere, the relation of lectures in general, and lectures on the practice of medicine in particular, to books on the one hand, and to practical or clinical instruction on the other. I now propose to take up more in detail the questions proper to this course, namely, What is clinical instruction? how does it stand related to clinical lectures? and how ought it to be conducted so as to utilize to the utmost the practical opportunities, alike for teaching and for learning, belonging to the medical service of an hospital like the Western Infirmary? The few introductory remarks I shall make to you on these topics will not, I trust, invade too much the actual work to be performed in this course; and they will give me an opportunity of stating, once for all, the results of an experience acquired during more than twenty years of service as an hospital physician, and as a clinical teacher.

(1.) Clinical instruction is, as its very name implies, *bedside* instruction. The very idea of clinical instruction, properly so called, carries with it that both instructor and instructed are to be in presence of the patient, and learning the lessons of disease together from the absolute source of all real and final knowledge in respect to disease, — *the sick man*. The lessons of a private practitioner to his apprentices, in the days when apprenticeships still existed, were true clinical instruction, and, with such a man as Abercrombie, who practiced this method exclusively, they must have been clinical instruction of the best and highest kind. A well-conducted dispensary, in which the physicians not only see their patients at the hospital, but follow them up at their own homes, and along with their pupils, is also a very fruitful and admirable field for true clinical instruction, and one which only requires competent and devoted men to make it at least equal, if not superior, to any other. Strange to say, however, neither of these are counted as formal clinical instruction in your curriculum of study. Probably the difficulty of securing adequate regularity of attendance and a sufficient body of well-trained and thoroughly competent teachers may be the reason why every kind of medical attendance upon the sick poor has not been more or less formally utilized for this purpose. But having for several years pursued this method, in connection with the Royal Public Dispensary of Edinburgh, where I had usually classes varying from half a dozen to twenty pupils, and having given the hours of many a long afternoon to conferences with some of these, in almost all the "closes" between Holyrood and the West Port, on the cases of disease which were too urgent to be visited otherwise than at home, while

others were seen at the dispensary on two fixed days in the week, I am in a position to affirm that it is quite possible, and would be, I think, very desirable for you that more should be made of this form of clinical instruction than has hitherto been done in Glasgow. Here, however, I am restrained by the consideration that I am not likely to be able to work in this direction myself; and I can only, therefore, commend to the junior physicians and surgeons of this hospital, and of the Royal Infirmary, the plan of clinical instruction to which I refer, of which the German *Poli-klinik* or *clinique of the town*, is one of the numerous modifications. One thing, indeed, is necessary to prevent this mode of instruction from becoming a mere sham and an abuse of the name of clinical teaching, namely, a proper subdivision of the work, and, as arising from this, a sufficient amount of time given to it. Hurry-scurrying through thirty or forty cases in an hour, as is done in the out-practice of many hospitals, is not instruction, but the reverse; or, if instruction at all, it is simply instruction in bad habits — absolutely fatal habits — of inaccuracy and want of thought. It is painful to me to be led even to allude to this subject; for it is not alone the injury done to the sick poor, in many cases, but the still greater, because persistent and absolutely irremediable, injury done to the medical art and to the students and junior practitioners of it, by the system of hasty consultations involved in the vast and quite overgrown out-practice of many hospitals in London and elsewhere, that demands a word of stern and sad remark. What is to become of young men trained in such habits, in after life, if at the very outset of their career it is made plain to them by the bad example of their seniors that five minutes, or three minutes, or two minutes, perchance, is all that can be spared for the investigation of a case of serious internal disease, with a view to its treatment? if, moreover, this rapid and unexact frame of mind is identified in the imagination of the junior with something that is called "practical," which may be roughly defined as the faculty of transacting the greatest possible amount of "business" — that is, making the greatest number of blind guesses, and writing the greatest number of brainless prescriptions, in the shortest possible lapse of time? I believe, speaking as a man who knows what amount of time and care they really require, that no more ruinous lesson could possibly be taught at the outset than this; and, on the other hand, that nothing is more absolutely essential for true clinical instruction than an abundance of time, so that every case that is made the subject of remark at all shall be, as nearly as possible, completely investigated according to all the lights that can be brought to bear upon it, alike from ancient experience and from modern science. And this is perhaps the one difficulty in realizing true clinical instruction of the best kind, as a rule, otherwise than in hospital wards. Young practitioners are too inexperienced, old practitioners are too busy, to give it in a really profitable manner, from the ever-increasing and over-abounding stores of general and miscellaneous practice. "While the grass grows the steed starves;" while the multitude of cases is being thus over hastily seen, the mind of the pupil, far from being enriched thereby with really valuable experience, is *sterilized*, so to speak, by acquiring the fatal habit of passing diseases under review superficially, and without anything like due investigation; so that he becomes, in the end, like the veriest empiric, a mere man of

¹ By request we reproduce this lecture on clinical instruction by Professor Gairdner, of Glasgow. It gives the matured opinions of a man of ripe experience and wide reputation on a very important department of medical education, and the present moment, when medical scholars are beginning their winter's work, is a propitious one for a consideration of the subject.

routine; with this difference, and one not always in his favor, that he has been during his pupilage artificially fed and nursed, so to speak, on books and lectures, and finally exalted, by the possession of a degree or diploma, into the conceit of himself that he is competent to know and to treat all manner of diseases,—the fact being that he has not learned even the very elements of a true *diagnosis*.

(2.) Clinical instruction, then, is, as we have said, bedside instruction; but it is, or ought to be, such bedside instruction only as is methodically conducted, and rendered, as nearly as may be, complete. And, if you will think of it for a moment, the *method* of the instruction is to you quite as important as even the facts or substance of the instruction. For it is but little profitable to you to see a patient lying in bed and to hear me pronounce it a case of pneumonia or of Bright's disease; what is wanted is that you should be able to see why and how this conclusion is arrived at. And in the order of importance to you the "how" is first, the "why" second; because the personal realization of the facts, the investigation of the phenomena, to speak in scientific phrase, should precede and not succeed the formation of an opinion about them. Hence it is scarcely clinical instruction at all, in the proper and just meaning of the word, for a physician merely to lecture about a case and to tell you in detail his opinion about it. What is really wanted is that he should place you, or at least some of you, and as many as possible of you, in the position to form your own opinion about it,—guiding you, of course, by his more matured opinion, but only so as to show the way and prevent you from making mistakes. Nay, even your mistakes are capable of being turned to account in a system of true clinical instruction; the mistake of one man is often the best kind of instruction for the many. And I would most seriously exhort you in all cases to be prepared to take this view of mistakes, not to laugh at them, or to scorn them, in each other, but to study them as the true path to knowledge; the practical exhibition of the fallacies and difficulties which will beset you all in your way through life. You will therefore greatly assist each other, and me as your instructor, if you frankly submit yourselves to questioning on all facts emerging at the bedside; for it is only by the answers of the individual man that I can discover the needs of the whole class; and only through your failures as individuals that the standard of knowledge and practical efficiency can be raised for the whole. You will very soon arrive, indeed, at this belief for yourselves, if you will only take note that we never reprove or deride any one on account of a mistake, but always use it as the means of discovering how far a difference of opinion is legitimate, and how far it is shared by others, or how far it may be removed by new observations; and in carrying out this plan at the bedside you will also observe that I prefer to throw my own opinion into the common stock, as it were, and to submit it to the criticism of facts, like the others, rather than to impose it upon you as final under almost any circumstances.

(3.) You will observe that I have said little hitherto about clinical *lectures*, except by an allusion, perhaps, to show their inadequacy as a means of clinical instruction; and it seems, therefore, rather incongruous to have to remark, at this point, that it is *only* the clinical lectures that are, generally speaking, recognized in your curriculum; in other words, the real essence of

clinical instruction, that without which it is not *clinical* at all, is passed *sub silentio*, or altogether neglected and omitted. This is certainly not as it should be, and I trust that in any future regulations of the authorities, or discussion in the medical council, this view of the question of clinical instruction will receive due consideration. As matters stand at present, the clinical or practical department of your instruction is, just as much as any other, open to the charge of being overmuch dependent upon lectures; and it is far less excusably so dependent, inasmuch as it is this part of your medical instruction that might be expected to be the corrective of any excess of lectures elsewhere. But, not to prolong remarks upon a topic that is not for you but for your seniors to judge of, I will hasten to add that there are serious practical difficulties in the way of securing the regular attendance of many students in the wards, to the extent that might harmonize thoroughly with the idea of an absolutely clinical or bedside instruction, in the strictest sense of the word. My own interpretation of the formal and official requirement is simply that by "lectures" is meant a stated meeting with the whole class, checked by roll-call; whether the instruction be given in a separate lecture-room or in the ward. While, therefore, we aim at fulfilling the regulations which require two "lectures" to be given in the week, we do not rest upon that regulation, or adopt the ordinary method of simply *lecturing about* cases, instead of actually *examining* cases of disease, as the basis of our clinical method. At one of the two "lectures," accordingly, which occur statedly as part of the weekly programme, I assemble the class in the lecture-room, as assigned to me by the managers, namely, on Tuesdays; at the other, on Fridays, I arrange to have a regular meeting in the ward, equally subject to roll-call, and with every possible arrangement made for your physical comfort, as well as for bedside instruction, such as can from its nature be appreciated by a considerable number. But whatever be the form of the assemblage, the lecture (so-called) is simply the condensed and ordered expression, or the interpretation, of observations made, and of facts elicited in your presence in the wards; the lecture, therefore, is in all cases most profitable to those who have taken some pains otherwise to know personally the facts. I cannot refrain from adding here that I have listened to clinical lectures, both at home and abroad, which were in no respect clinical in any true sense of the word. One distinguished professor in Paris, during one of my visits to his hospital, was giving a whole series of clinical lectures on the properties, physiological and pathological relations, and therapeutic uses of arsenic. I could only wonder if he was also getting up his materials as he went along by giving arsenic all round to all his patients. Another professor, in Germany, on one occasion when I was casually present, had been giving two whole days (and two hours each day) in succession, to a complete systematic exposition of the entire subject of hemiplegia and the allied forms of paralysis, as illustrated clinically by one case only; and the worst of it was, that this was really a clinical lecture in external appearance at least; for the unhappy patient was present throughout this remorselessly long-winded harangue, and was doomed to listen from his bed (hauled into the lecture-theatre) to a statement at full length of the nature of the disease, causes, predisposing and exciting, pathological anatomy, symptoms, diagnosis, prog-

nosis, and treatment, without even one word, so far as I observed, of kindly sympathy or consideration for him, any more than if he had been an inanimate object. This was the most cold-blooded exhibition I ever saw or heard in the shape of a clinical lecture; and, notwithstanding the great reputation of the professor, and my anxiety on other grounds to follow him, I was so unfavorably impressed that I never again ventured within that professor's lecture-room.

(4.) This leads me to make another remark about the proper conduct of a course of clinical instruction. Bedside teaching is not what it professes to be, namely, clinical in the highest sense, unless, besides being a discipline for you in regard to the facts of disease and the methods of observing them, it is also made an equally careful training in respect of the moral relation between physician and patient. I will confess to you at once that there is some risk of this aspect of the matter being forgotten at times, and I am by no means one of those who maintain the absolute compatibility, under all circumstances, of the interest of the patient with that of the clinically-instructed pupil. There is a risk, as I have already said, that clinical instruction may be conducted in a cold-blooded and heartless manner, to the detriment of the patient. But on the other hand, I fully believe, and indeed know from experience, that the sick poor derive, on the whole, a literally immense amount of benefit which would otherwise not accrue to them, from the thoroughly methodized, orderly, and elaborate investigation which their cases undergo as a consequence of clinical instruction. Comparing, as I am able to do every day, the diagnosis and even the treatment of disease in hospital patients, with what is the average lot of the same class of patients out of hospital; nay, even comparing the indoor hospital patient, the subject of clinical instruction, with the wealthy man or woman moving in society, who consults the most fashionable physicians, and has his or her family doctor always at hand, I am almost sure that the balance of advantage is often on the side of the hospital patient; and this, just because of the thoroughness of investigation, and the methodical care in regard to all details of treatment and nursing which obtain in a well-regulated hospital ward. But I would not have you suppose that these advantages of our clinical method can be secured to the patients, say of the Western Infirmary, without your co-operation; without the whole scope of our clinical teaching being such as engages, both in your case and mine, the heart as well as the head. I will utter no mere vague sentimentalisms on this subject, for it is one where an honest, but not overstrained, human sympathy with suffering humanity is all that is required to guide you aright. What is necessary, however, is that you should clearly realize to yourself the position; that if I, for example, forget for one moment, or if you allow or oblige me to forget for one moment, the real interests of the patient as they appear to a kindly sympathetic physician, it is not only an injury done to the sick man, but also a violation of the law of true clinical instruction. For what I have got to teach you, and what you have got to learn, at the bedside, is nothing less than the whole art of the physician; and this includes, most assuredly, as one of its most important elements, the art of securing the confidence and good-will of the patient.

(5.) Now to apply these remarks regarding clinical instruction to our own work in detail. We require, in

the first place, a group of clinical clerks, and these we shall select to the number of at least a dozen, from yourselves; but by this I mean not necessarily from the enrolled members of this particular clinical class, but from the undergraduates who may prove, by clinical examination or otherwise, the possession of the necessary qualifications. To these gentlemen will be committed the keeping of the ward journals, in a great measure; with the proviso, however, that in most cases either my assistant and *chef-de-clinique* (as the French say), Dr. Gemmell, or the resident physician, or I, shall have revised and critically compared the record with the facts of the case before it is finally inscribed. In this critical comparison there will necessarily arise most valuable material for bedside instruction; therefore the examination of the details of the clinical record will usually, or as much as possible, take place in presence, not indeed of the whole clinical class, but of a select number of junior students. Use these opportunities well, gentlemen, for they are invaluable. The record, in its completed form, will be, it is to be hoped, a record of facts; but even facts are often tinged or modified by opinion; and where differences of opinion arise, we shall be careful not to extinguish these, but to preserve them in the form of the record itself; which will in all cases be authenticated by the name of the reporter, and often of those also who have concurred with or differed from him in his statement of particular facts. In all cases, moreover, we require the *date* of the observation, and, as much as is convenient, the order in which the facts were elicited, to appear upon the face of the record. We allow no subsequent correction or revision of this (saving for plainly clerical errors), except in the form of a marginal or foot-note, similarly dated; and for this purpose we keep, purposely, a blank page open opposite every written page of our hospital report. Some of the most instructive of our bedside conferences have often arisen upon these late verifications, or corrections, of doubtful points in the original record of a case. When, in the course of an ordinary ward visit, I personally dictate the report of a first or of any future observation, it is similarly authenticated, and equally open, as in the case of the report of a junior, to future criticism or correction; and many of you can bear me witness that I never hesitate in allowing an error, or a doubtful expression, to be fully and deliberately discussed, and the correction, if necessary, duly inscribed as such upon the margin. Indeed, it is in these very difficulties and fallacies of observation that we frequently find the best materials for our clinical lectures. Finally, after a certain period of observation, and after a certain number of presumably exact details have been inscribed, we make upon the first blank page opposite the beginning of the case, a *summary* of the whole observations, which in many cases, but not always, includes also a definite diagnosis, or at least the materials of one. On a second blank page we inscribe a connected statement of the details of treatment; on a third, the whole series, or a carefully-constructed abstract, of temperature observations; on a fourth, urinary observations, etc., etc. Diagrams of physical diagnosis, sphygmograms, etc., are inserted as required in the journals; and thus after a while there is built up gradually a completed record of the case up to the moment of dismissal from the hospital, or of death.

(6.) Such are our hospital journals, the raw material, so to speak, of our clinical lectures and instruc-

tions. It is clearly and manifestly impossible that all the members of a clinical class shall be even present, much less participate in the observation and verification of each individual fact; but our aim is so to work *together* in all things, and so to record the results of our work, that every member of the class shall feel, as it were, with the force of personal conviction, that the statements so recorded are such as he *might* possibly have verified, had he happened to be present at the time. And not unfrequently the actual verification takes place, in the case of unusual, or striking, or typical phenomena which from their nature can be submitted to larger numbers, before these larger numbers, or even before the entire class, on one or other of the lecture days above mentioned. But obviously, such verifications, or conjoint observations, must be of a very select kind; for with every increase in the number of observers it is absolutely necessary to diminish the area, so to speak, of the facts observed. Thus it is possible, without fatigue or risk, to demonstrate the more glaring râles over a single point of the lung surface, or a well-marked cardiac bruit, or an irregularity in the pupils, or a well-defined percussion-dullness or tumor, to a large number comparatively: but if, as is usually the case, the more critical investigation of any of these requires more than the mere statement of the fact; if the murmur has to be traced to its source, or studied as to its law of diffusion; if the râles have to be followed out with relation to their distribution, or associated with other facts, such as the alterations of the respiratory murmur in different parts of the chest, then the bare physical possibilities of personal verification by numbers become correspondingly limited. Hence in our more numerous assemblages, whether on days subject to roll-call or not, we find it often necessary to elect two or at most three representative men out of the class, to whom, in detail, the more difficult or complicated observations are committed, and their impressions, told singly and in presence of the whole class, are discussed, controverted, verified, or rejected, as the basis of direct observation on which the diagnosis is to proceed, or the principles of treatment are to be brought into question, and here, also, we use the hospital record as supplementary to direct or personal observation; always with the understanding that the hospital record itself has been the result of previous observations made and controlled, as far as possible, by like methods of verification in detail.

(7.) Lastly, the clinical *lecture* proper, that is, apart from the ward altogether, which, as a rule, we give once a week to the whole class, is no ambitious performance, nor display of learning or of eloquence on the part of the lecturer, but simply, as far as possible, an outgrowth from the labors of the preceding week or month, or more, as the case may be, of duty in the wards. Facts and phenomena previously observed separately are here discussed in correlation; cases which have terminated or passed out of view are treated in *résumé*, and the most obvious conclusions arising out of them, as to treatment, or prognosis, or pathology, such inferences, in short, as would have been out of place in the wards, are shortly indicated. And considering that we have already, in this Western Infirmary and these wards of ours during only three years, since 1874, accumulated some hundreds of cases, and almost a score of volumes of records, compiled throughout with the same anxious care for the verification of every detail, we sometimes

seek back, as it were, upon our own previous clinical experience, partially remembered, it may be, by the seniors among you, or at least open to your inspection and comparison in detail, with the cases more immediately before us. Sometimes, but more rarely, we pass beyond the bounds of what may be called our conjoint experience in this hospital, and supplement it by more general statements founded on a wider area of experience.

Such, gentlemen, is our clinical method, briefly, but I hope comprehensively, stated. You will observe at once that it is widely different from that ascribed by rumor to an old friend of mine, who still lives, but who has survived all his ambitions, and will, I am sure, pardon me the use of this illustration. I happened to attend, long ago, the earlier part of the first course of clinical lectures delivered by this gentleman, and I was struck by the remarkably complete and exhaustive manner in which each whole subject was brought into view upon the basis, usually of a single case in the wards, which was simply read to us out of the journal by way of introduction, or text, so to speak. The current rumor was that the course of lectures in question had been elaborated in the course of the preceding summer, being written down every word in an exactly ordered fashion, according to all the respected author's previous experience and reading; so that the cases, as they occurred, were fitted into the lectures, instead of the lecture being adapted to the cases. It was a well-marked example of the method called by the logicians *ὑστερον πρότερον*. But I am often reminded of this way of clinical lecturing by the reports I read in the medical journals of dissertations, often by very able men, and therefore well worth reading, on subjects requiring both elaborate treatment and complex illustration, far beyond the scope of individual experience and especially of hospital experience; which nevertheless seem to have been delivered, for some reason hard to be understood, under the title of clinical lectures. Of such dissertations we may say, almost as the French marshal said of the Balaklava charge, — "C'est magnifique; mais ce n'est pas la guerre," — they may be admirable in their way, but they are not clinical. In this hospital I hope you will find throughout, even now, a rigidly clinical system of instruction, thoroughly worked out by each physician and surgeon. It is within my hopes and aspirations, that as its wards are extended, as its resources are developed, and as its out-practice is made even more available for your instruction than now, it may become a great coöperative institute of clinical teaching, in all respects commensurate with the wants of this great medical school.

— In the *British Medical Journal* we read that "a summons was applied for, at the Marlborough Street police court, against a Miss Houghton, practicing as a 'healing clairvoyante' and spirit medium, for obtaining 2s. 6d. for pills, which she pretended had been spiritistically prescribed for a person suffering from neuralgia, which turned out to be formed of sugar only. The summons was granted. So much is there in a name. The pills were apparently homœopathic globules, and had this incautious person invoked the name of Hahnemann only, and spoken mysteriously of potentizing by dilution and dynamizing by trituration, she might have risen to much honor and profit."

Original Articles.

THE TREATMENT OF HIP DISEASE.¹

BY E. H. BRADFORD, M. D.

AMONG American surgeons the practice of employing extension in the treatment of hip disease is so common that the question of its advantages and special indications is rarely suggested. It, however, is a practice which is not universal in Europe, and which is entirely rejected by some surgeons. That its use is not clearly understood is evident from the fact that its chief purpose is differently stated. It has been regarded as (1) a means of overcoming the muscles spasmodically contracted about the diseased joint; (2) simply a means of fixation of the joint; (3) to separate the bones forming the joint, that is, as a method of "distraction," to use the term introduced by Volkmann. As an attempt to determine the function of extension the writer has made the following observations: An extension of twenty-five pounds was applied to my own leg and thigh. The sensation felt was that of a dragging of the whole trunk, and also of traction, mentally referred to the hip-joint, similar to that felt on pulling the phalanx from the metacarpal bone.

The cadaver of a child ten years old, a dissecting-room subject, was placed at my disposal through the kindness of Dr. M. Richardson. Needles were driven, one into the pelvis and another into the trochanter on the same side; the flesh above and below the needles was incised, so that traction upon the limb, and necessarily involving the soft tissues, did not drag upon the needles. Extension was applied in such a way as not to alter the axis of the limb relatively to the plane of the pelvis, and thus disturb the position of the needles. The distance between the needles was carefully measured and noted. An extending force of one hundred and fifty pounds was applied, the pelvis being fixed. No difference in the distance between the needles could be noticed on careful measurement.

A second cadaver was offered to me by Dr. Cutler, pathologist at the City Hospital, for experiment. The subject was an adult male, recently dead. Needles were inserted in the same way as has been mentioned. An extending force of one hundred pounds was applied, but no separation of the needles could be observed. The muscles were all severed, the fascia lata cut, which was found to sustain without yielding a great deal of force, and the capsule of the joint was exposed, but not opened. Extension caused no separation of needles inserted one into the neck of the femur and another into the acetabulum. The capsule of the joint was then opened, cutting across the ileo-femoral ligament, but no difference was found in the separation of the needles on extension. The head of the femur was then dislocated and replaced, but even then the needles could not be pulled apart by extension. The head was evidently held in place by the firm fibrous ring which is prolonged from the acetabulum, uniting with the capsule, and acts as a collar, making a complete ball-and-socket joint. This was quite evident on examining a number of dissected hip-joints, with the capsules partially removed, but retaining the ring. In one the acetabulum was perforated by a hole, to illustrate the well-known experiment as to the effect of atmospheric pressure. If the

hole is uncovered the head of the femur slips out readily. If the opening is stopped by the finger the head is retained in position by the atmospheric pressure. When the process is repeated several times and the fibrous collar becomes stretched and loose, the head can be pulled out easily.

The body of a full-term fœtus, preserved in alcohol, was examined. Needles were placed in the pelvis, as in the other experiments, and traction made by means of weight, great care being taken that there be no extension in such a direction as to disturb the axis of the femur in its relation to the plane of the pelvis. It was found that extension noticeably separated the needles. When a force of ten pounds was applied the separation was one and a half millimetres. When a force of one pound was used the amount of separation was nearly as great, — one millimetre. The soft parts were cut away down to the joint, but leaving the capsule to be seen. Traction separated the femur from the acetabulum, as was readily manifest on inspection without measurement. On dissection it was found that the fibro-cartilaginous collar which surrounds the head of the femur in the adult is absent in the newly-born child.

It appears, then, that extension does not separate the femur from the acetabulum when the parts are in the normal, fully-developed condition. Atmospheric pressure holds the head firmly in place. If, however, the collar, which is essential to a tight ball-and-socket joint, be not firm, the yielding of the soft parts allows the head to be drawn from the acetabulum in the same way that the phalanx can in many hands be drawn from the metatarsal bone. Under what conditions such a relaxation exists as to permit this is not yet determined; presumably in chronic diseases this would sometimes be the case, and perhaps continued extension brings this result about.

It would seem, therefore, reasonable to infer that the relief given by extension in some cases of hip disease is due to the actual separation of the bones involved in the joint.² That this more frequently is not the fact in the early stages of the disease is probable, considering the anatomy of the joint. In these cases, however, the muscular force which in disease draws the femur upwards, crowding the head against the acetabulum or forcing it above the normal position of the latter, is counteracted by thorough extension. It is to this, probably, that the relief obtained by extension in the majority of cases is due. This relief is so marked that there can be doubt of its efficacy as a means of treatment.³ It is also true that extension, provided the pelvis is steadied, can be made to give efficient fixation, but it is manifest from cases which are frequently met that simple extension without any attempt to secure the pelvis gives great and immediate

¹ Read before the Boston Society for Medical Improvement, June 28, 1880.

² Experiments similar to the above have been made by Morosoff. (P. Morosoff, Inaug. Dissertation, Charkow, 1875, quoted in the Archives générales de Médecine, 1878, page 718.) He concludes that no separation of the articular surfaces of the hip-joint occurs in the living if the ileo-femoral ligament is intact. He does not appear to have made any observations when this ligament is cut, or on subjects with the capsular collar partially developed. The experiments of Koenig and Paschen (Deutsch. Zeitsch. f. Chir., 1873, No. iii., pages 256 and 272) point to a slight separation from extension; they were made on frozen and apparently not fresh cadavers. Experiments on the knee-joint have been numerous, but do not bear upon the possibility of distraction of the hip-joint. It has been said that if extension causes a separation at the hip-joint the effect will be to bring the under surface of the head of the femur in closer contact with the bony rim of the acetabulum. After dissections in regard to this, I find that this does not happen unless the thigh is adducted to a marked degree.

³ Cases I., II., III., IV.

relief.¹ That at times, however, pain is not entirely relieved in this way will also be seen, and sometimes in cases which are classed as hip disease extension is even uncomfortable.² This I have thought might be explained on the supposition that extension relieves muscular spasm and the pain caused by the undue pressure of inflamed surfaces or bone, but not that due to inflamed synovial walls or the distention of a synovial cavity.

To determine this, however, a great deal of pathological and clinical evidence is needed.³

The simplicity of the weight-and-pulley extension has given it a wide-spread popularity, and the relief gained in some cases is so marked as to give it undue credit and hide its defects. If a hospital ward where a number of patients treated in this way be visited at midnight the defects will be seen. Some will be found lying on their faces, on their sides, with the limbs flexed, frequently in such positions as to transfer the extension from the hip to the knee. The method confines the patient to the bed; it alone gives hardly any steady fixation, except when the pain is so great as to prevent motion; as a means of extension it is not thorough, and it is incapable of preserving the parallelism of the limbs, an indication so important that if neglected a cure sometimes leaves the patient as much of a cripple as an amputation.⁴ Combined with other more thorough means for fixation it is capable of excellent service,⁵ but alone it should be regarded as a method for meeting certain indications, but not as a system to be relied on for the best treatment of the disease.

What has been said in regard to the "weight and pulley" is also true of the "physiological method," as it has been termed by Dr. Hutchinson, that is, the treatment by crutches and a high shoe. It meets certain indications, but cannot be relied upon in all the phases of the disease. Patients treated according to this method illustrate that at some stages and in some cases the natural fixation is apparently sufficient,⁶ and that at times but little extension is needed;⁷ but it is also clear that in many cases the weight of the limb is not enough to overcome muscular contraction, prevent deformity, and give the patient the greatest amount of freedom from the discomfort due to disease at the hip-joint.⁸ As a means of extension it is imperfect, for the reason that it is efficient only when the patient is upright; for fixation it does not perfectly guard against involuntary motion occurring during sleep; it also is not certain to protect the joint from jar, for in practice many children when not suffering from a painful joint will be found occasionally to kneel upon the affected limb or take a step, unless watched more closely than is usually practicable.⁹

The plan of fixing the affected hip-joint by securing the thigh to an iron rod, fastened into an iron cross-

piece bent so as to inclose the chest, introduced by Mr. Thomas, of Liverpool,¹⁰ gives better fixation than can be given in any other way compatible with locomotion, which becomes possible by the help of crutches and a high shoe. Since Dr. Hutchinson's cases have been published, those reported by Mr. Thomas as cured by his method have less value as evidence, as the suggestion is inevitable that many of the cases might have recovered without the use of mechanical fixation. Whether this latter is necessary, and when it is necessary, are questions which can be determined only by further observation. In rejecting extension, except that given by the weight of the limb, Mr. Thomas certainly deprives himself of a valuable aid in treating hip diseases, although he may have been successful without it. The writer has been able to watch in the past five months a few cases treated according to Mr. Thomas's plan. One, an active child too young to use crutches, visibly lost in general condition from the confinement of the splint. Another gained both locally and generally, but complained of the irksomeness of the apparatus. A third has improved, and is free from active symptoms, but is inclined to lay aside his crutches and step on the affected limb. The apparatus is readily furnished and easily taken care of.¹¹

It has already been shown by the reported cases of others that under treatment by the long extension splint, perfected by Dr. C. F. Taylor,¹² patients may make good recoveries, and the relief which patients evidently obtain from the apparatus shows that the recoveries cannot be considered, as has been stated, the result of natural causes alone, in spite of treatment.

The apparatus meets certain important indications. The limb is well protected from concussion, the joint is fixed against the spasmodic muscular action and the consequent injury, parallelism of the limbs is preserved, a more certain means of extension is given than can be furnished by the weight and pulley, and locomotion is not difficult. The disadvantages are the necessity of careful supervision and the annoyance from the wearing of a splint, adhesive plaster, etc. Designed for the purpose of efficient extension, it is only secondarily a means of fixation, and in cases where absolute fixation is necessary the apparatus is insufficient. The motion of turning or twisting in sleep is not prevented; patients wearing the apparatus will often be found, if visited at night, lying upon the affected side, with pressure upon the trochanter, or on their faces. It has been claimed that if the muscular contraction is thoroughly overcome, as can be done by means of extension, a certain amount of motion at the joint is not injurious. This is probably true, especially in cases of o-stitis of the epiphysis with but little adjacent synovitis, but it is certainly desirable to protect the limb from concussion. While the long extension splint efficiently prevents concussion in walking, it does not protect from a jar on the trochanter,—a jar not likely to happen when the patient is awake, but which may during sleep. Therefore, whenever the condition of the patient requires perfect fixation, some other means in addition to the extension splint is needed to prevent the patient from motion during sleep. How much or how little injury is done by jar occurring in this way va-

¹ Cases XII., XIII.

² Cases VI., VII.

³ The experiments of Schultze are of value in this connection. He found that extension of a distended joint brought about an increase of the intra-articular pressure, but, then an extension of six pounds continued for four or five days effected a diminution of this pressure, either by relaxing the ligaments or bringing about an absorption of the fluid of the joint through an increase of the pressure. (Schultze, *Deutsche Zeitschr. f. Chir.*, 1877, vii., page 76; also Beyher, *ibid.*, 1873, No. iv., page 26, and Ranke, *Centralblatt f. Chir.*, 1875, page 609.)

⁴ Case XVI.

⁵ Cases V., XVII.

⁶ Cases VII., IX., XI.

⁷ Case XIV.

⁸ Cases XII., XIII., XV.

⁹ Cases VIII., XI., XIV.

¹⁰ *Diseases of the Hip, Knee, and Ankle.* London. 1878.

¹¹ I am indebted to Dr. Post, of Boston, for information in regard to Mr. Thomas's apparatus. Dr. Post, through Mr. Thomas's courtesy, enjoyed the opportunity of seeing a number of the latter's patients.

¹² *Mechanical Treatment of Disease of the Hip-Joint.* New York. 1875.

ries with the site of the disease and the habit of the child; in a few cases this has seemed to me to retard the patient's recovery. The objection to the extension splint, that in walking the splint bends and all extension is lost, does not appear to be of value, as when the bending of the splint takes place the weight of the limb is an extending force.¹

Absolute recumbency, with fixation, either in bed or "wire breeches," if for a long period, is a method sanctioned by good usage. Pain will diminish and disappear under this treatment,² and children suffering extreme pain and emaciated from the loss of sleep often gain in flesh and improve in condition when placed under the treatment of complete immobilization and recumbency. This is sometimes advisable, but it is also true that the degree of improvement is limited, and that children after a while remain in a condition beyond which they do not gain. The fact that exercise to children is as important as sunlight for a plant is exemplified in the rapid gain patients frequently show after release from confinement in bed. Now that it has been clearly demonstrated³ that in many cases of hip disease the lesion is in the early stages a caseous degeneration or local tuberculosis in the epiphysis of the head of the femur, and that the joint is not primarily affected, it is certainly bad treatment to subject all cases of hip disease to long confinement as it would be to confine patients with phthisis in order to prevent bronchitis.

The conclusions which the writer has been led to form may be stated as follows: The treatment of hip disease should be based neither upon any one method nor upon the use of any splint. In the course of a long affection involving the femur, the joint, and the adjacent tissues certain changes take place. The morbid condition is an osteitis near the joint, and the subsequent invasion of the latter, or a primary synovitis exciting a neighboring osteitis; the process is accompanied by a spasmodic contraction of the neighboring muscles, which aggravates the inflammation by increasing the pressure on the inflamed bone. At different times and in different cases one condition, and the consequent indication for treatment, may be more prominent than another; they all, however, need to be borne in mind, and rational treatment consists in thoroughly meeting the indications as they appear. The methods for this purpose will vary according to the experience and skill of the surgeon and the surroundings of the patient, and it is a matter of judgment in each case how far absolute immobilization and thorough extension are demanded, when natural muscular fixation suffices, and when exercise is necessary. The greatest danger is from destructive change of the bone, and not from the synovitis, and hence jar upon the inflamed tissues, when caused either by locomotion or by muscular spasm, is especially to be avoided, and this must be done until recovery has so far taken place that there is no possibility of relapse. This requires a long time, during a large part of which motion may not be injurious. The stage when jar must be prevented is longer than the stage when rest is required.

To state the matter briefly, beside the necessity of improving the patient's general condition, it is important,—

¹ This difficulty can be obviated by a simple arrangement used by Dr. C. P. Putnam, of Boston, and a splint devised by Dr. N. M. Shaffer, of New York.

² Case XIX.

³ Volkmann, *Klinische Vorträge*, 168, 169.

(1.) To prevent jar and injurious motion at the joint.

(2.) To overcome muscular contraction.

(3.) To prevent and correct deformity.

Extension is to be regarded as a means for overcoming muscular contraction, for partial fixation of the joint, and, under certain conditions, for "distraction," or actual separation of the bones forming the joint.

CASES ILLUSTRATING TREATMENT.

CASES RELIEVED BY EXTENSION.

CASE I. W., boy, sixteen years old. During the preceding six months the patient had without known cause suffered from attacks of severe pain in the right leg and thigh, worse at night, requiring at times morphia and ether. He limped in gait, and had been growing gradually worse until he became finally confined to his bed. No treatment had been undertaken. On examination the right thigh was found flexed and adducted, allowing no motion at the hip-joint, the adductors were contracted, the glands in the groin were enlarged, the thigh was atrophied. Pain was caused by jarring the limb.

An extension by means of a weight and pulley was applied (eight pounds being used as a weight). No attempt was made to fix the pelvis, and the patient moved in bed. The relief from the pain was immediate and complete. No morphia was needed. Three months later the patient's father reported that he had continued to gain, and that he had been free from pain when extension was applied. The case was not kept under observation, but a year later the boy was heard from, and he was reported to have been constantly gaining.

CASE II. Girl, aged ten, had been under treatment for the preceding year for hip disease, wearing an extension splint. This was removed, and the child suffered no discomfort, until after a fall she was seized with violent pain, referred to the knee, which increased rapidly for three weeks, until the patient required subcutaneous injections of morphia (three times a day, one third of a grain at a time). On examination the right thigh was strongly flexed and adducted, and the whole thigh swollen (subsequently an abscess formed). The slightest jar produced an agony of pain, and of course the least motion was impossible. The patient was etherized, and an extension by weight and pulley was applied, the limb having been placed in position. The pain ceased immediately, and the patient slept well without a narcotic. The course of treatment was long and tedious, with continued extension and confinement to the bed, but there was no subsequent pain; recovery occurred with the hip ankylosed, but without shortening or adduction. At the present time there is a slight discharge from the sinuses, which remain from the abscess. The patient is able to bear full weight upon the limb, but walks with preference on a splint or crutches.

CASE III. Woman, thirty years old. For some time the patient suffered from occasional attacks of violent pain in the right knee and groin. The patient was brought to the Carney Hospital, with extreme pain on motion, and spasmodic twitching of the muscles of the thigh accompanied by violent pain in the knee and hip. This pain was greatly diminished and in a short time entirely stopped under the treatment by extension with the weight and pulley. A

weight of twenty pounds was used and continued for a long time. Discontinuance of the extension or diminution of the weight reawakened the pain. After several months an extension splint was applied; this, the patient stated, gave a greater sense of freedom from discomfort about the hip than an extension by weight and pulley, but it had to be discontinued at times, owing to the cutting of the perineal strap. The patient is at present able to go about wearing the extension splint. The spasmodic contraction of the muscles of the thigh could be easily seen after any motion or jar, and the efficacy of extension in controlling this was manifest and accurately estimated by the patient.

CASE IV. F., boy, aged seven. Hip disease of left hip, of one year's duration. A large abscess had formed in the upper part of the thigh. There was extreme sensitiveness at the hip. The abscess was incised, and an extension by weight and pulley applied, and later an extension splint. The relief from pain, which had been quite severe, which was afforded by the extension was very well marked. The boy improved greatly for nearly a year, but subsequently developed phthisis in the left lung, and died with symptoms of general tuberculosis. During the three months which preceded death the hip symptoms, which had been of comparatively slight importance, became more severe. The patient, although annoyed by the irritation caused by the adhesive plaster used in extension, required the extension splint constantly to ease the discomfort at the hip-joint.

On a post-mortem examination the head of the femur was found covered by granulations, and on section a focus of caseous degeneration of the epiphysis was discovered, but no tubercles were seen on a careful examination made by Dr. Whitney.

CONTRACTION OF THE LIMB DURING HIP DISEASE CORRECTED BY EXTENSION.

CASE V. Girl, aged five. Diseased left hip, of six months' duration. The thigh was flexed at nearly a right angle with the axis of the body. This could not be straightened beyond an angle of forty-five degrees, even under ether, without tenotomy and force. There was a good deal of tenderness at the hip-joint, but no evidence of suppuration. An extension by weight and pulley of eight pounds was applied, in the line of the deformity, the thigh and leg being raised by pillows, and the patient kept recumbent. The patient suffered no pain, and in the course of two weeks the deformity was completely reduced, and the thigh perfectly in line with the body.

CASE WHERE PAIN WAS NOT RELIEVED BY EXTENSION.

CASE VI. Girl, five years; hip disease of left limb, beginning with gradual prodromata, attended by attacks of extreme pain. A fourth attack occurred while the patient was wearing an extension splint which had not been thoroughly applied. This was a severe one, and although the pain seemed diminished to a degree by extension, yet for several weeks the patient suffered extreme pain at night, and occasionally extreme pain in the day. The extension was continuously applied; both weight and pulley, with immobilization in bed, and an extension splint were tried. Extension beyond ten pounds appeared to increase the nocturnal pain. The patient was subse-

quently removed to a hospital, and died a year later of exhaustion, after the formation of an abscess and several months of suppurative discharge.

RELIEF FROM EXTENSION NOT MARKED.

CASE VII. A girl, aged ten, a delicate child, with a previous history of severe pain, was admitted to the hospital with symptoms of stiffness at the right hip-joint, slight tenderness, resistance to passive motion, except within an arc of ten degrees, and nocturnal pain. There was flattening of the right buttock, with atrophy and contraction of the muscles of the thigh. An extension by weight and pulley was applied, and the patient immobilized in bed. The relief from nocturnal pain afforded by the extension and fixation of the joint was not marked, but the patient gradually improved, and in three or four weeks was free from pain; the muscular stiffness, however, remained for three months. At the end of a year the patient had regained perfect motion at the hip-joint, and was able to walk without a limp. She died suddenly, however, with symptoms pointing to embolus from a valvular disease of the heart. The hip-joint on examination was found to be healthy, except that a small portion of the synovial membrane at the insertion of the ligamentum teres in the acetabulum and around the head of the femur was thickened and red. The ligamentum teres was intact, and the cartilage, the rest of the synovial membrane, and the bone, which was sawed through, were healthy.

CASES TREATED BY DR. HUTCHINSON'S METHOD.

CASE VIII. Girl, five years old. The patient had been treated for hip disease two years before, remaining six months in bed, but was supposed to have recovered entirely, and had walked about freely for the past year. Symptoms, however, reappeared, namely, limping, pain in the knee, limitation to motion at the left hip-joint. The limb was slightly abducted. Crutches and a high shoe were given, which the patient has worn for six months, and still uses. An extension by weight and pulley was applied at first, but discontinued by the patient, and it caused some discomfort. The symptoms diminished, and the patient's health improved. At the present time, although there is no deformity, the stiffness on moving the hip-joint remained about the same. The child is liable, when not watched by the mother, to lay aside her crutches, and step upon the limb.

CASE IX. A somewhat similar case, occurring in a girl of the same age, affecting also the left hip. The child has had no inclination to step upon the limb. There has been no increase of symptoms during the treatment, but there has been no diminution of the stiffness at the hip-joint during the five months of continued use of crutches and an elevated shoe.

CASE X. Girl, five years old. The patient has had hip disease for several months. The thigh was badly flexed and somewhat abducted, and there was no motion at the hip-joint. The patient was not suffering from much pain, although pain could be caused by jarring the limb. Crutches and high shoe were furnished, and the treatment was carried out thoroughly. A severe attack of pain occurred, but subsided after putting the child to bed for three weeks and applying a weight and pulley. The crutches and high shoe were resumed, and after treatment of nearly eight months the stiffness at the hip-joint was found to have remained

the same; the flexion almost entirely corrected; the abduction remained the same. The patient's general condition was good, and she was free from pain.

CASE XI. Boy, eight years old, complained suddenly, without known cause, of violent pain in the left hip, causing him to limp in walking. The pain diminished, but the limping continued. On examination, slight limitation to motion was found, and some local tenderness. There was no nocturnal pain. The patient was kept in bed for two weeks; an extension by weight and pulley was applied, but caused the patient discomfort, and was discontinued. The boy was allowed to walk about freely, using crutches and an elevated shoe. This the boy did readily, and remained entirely free from pain. For several months the patient made no attempt to touch the affected limb to the ground, but later he frequently laid aside his crutches and took a few steps without, although the well limb was elevated by a patten four inches high. A few months later, the motion at the hip-joint being perfect, the crutches and high shoe were removed, but the pain returned, and they were resumed, with the effect of entirely relieving the pain. Three months later the crutches were again removed, and at the present time (three weeks later) there has been no recurrence of pain. The motion at the hip-joint is perfect, and there is no limping in gait.

CASE XII. A young lady, twenty years of age. The patient had prodromata of commencing hip disease for a long time, the disease developing slowly. This culminated in an attack of violent pain in the affected (the left) limb, for which she underwent treatment, wearing for a time a long extension splint. The improvement was so great that the patient was considered well, and apparatus was discontinued. After one or two months the symptoms reappeared. The patient was unable to walk; discomfort and pain at the hip and knee occurred at night; there was stiffness on moving the limb, aggravated at night. The thigh was flexed and abducted slightly; there was motion at the hip-joint only within a limited arc. Pain (referred to the knee) was caused by jarring the limb. The thigh was slightly flexed and abducted. The patient suffered pain on the jar of riding. An elevated shoe and crutches were furnished, and the patient directed to walk about freely and to bear no weight upon the affected limb. An extension by weight and pulley was applied at night, and during the day when the patient was resting. After a year of this treatment, thoroughly carried out, the patient has gained ten degrees of motion at the hip-joint; there is no flexion of the thigh. The patient is able to move her thigh about with much more freedom, and has been without pain. She is, however, at present unable to walk without her crutches. It was manifest in the course of the case that sufficient extension was not gained by the simple weight of the limb to make the patient comfortable. A weight of fifteen pounds was used by the patient when lying down, and she was never as comfortable without as with the extension.

CASE XIII. A girl, fifteen years old. A parallel case to the preceding, except that during a year's treatment there has been no gain in the amount of motion at the hip-joint, and no marked improvement, except in general condition. In this case, as in the preceding, the patient is not so comfortable without an extension by weight as with. Although she goes about constantly on crutches and is a large girl, the weight of

the limb alone is not sufficient to prevent the muscular contraction incident to the disease.

CASE XIV. L., a boy aged five. Disease of two years' duration, of the left hip. The patient had been treated by the long extension splint, and had been able with this to walk about freely. Three sinuses remained, discharging moderately; the limb was in good position, without flexion, and with a few degrees of motion, and without pain. The extension splint was removed, and the boy treated according to Dr. Hutchinson's method. The boy continued in good condition, but the amount of motion at the hip-joint diminished until the joint became fixed. The boy's mother stated that it was impossible to prevent him at times from laying aside his crutches and taking a step upon the lame limb.

MUSCULAR CONTRACTION NOT RELIEVED BY THE "PHYSIOLOGICAL" TREATMENT.

CASE XV. A girl, six years old. The patient suffered from disease of the left hip-joint, and was treated for nearly six months according to Dr. Hutchinson's method. Although the treatment was carried out with great care, and the patient used her crutches constantly, the extension from the weight of the limb was not sufficient to prevent the thigh from becoming gradually more flexed. On examination at this time the thigh was found at an angle of fifty degrees with its normal line (with the patient recumbent), and there was extreme sensitiveness of the joint. The deformity was gradually corrected by means of extension; a small abscess, however, formed later, and was incised. The sensitiveness of the joint remained for several months. The patient—fifteen months after the first application of extension—goes about readily, wearing an extension splint. Within the past two months she has been entirely free from pain.

CASE ILLUSTRATING A RECOVERY WITH BAD DEFORMITY.

CASE XVI. A girl, ten years old, had disease of the right hip-joint when quite young. Was kept recumbent for a year with an extension by weight and pulley. An abscess formed, discharged, and healed; there has been no discharge for six years. The patient has never worn apparatus, but goes about on crutches. She has been entirely free from pain for several years. On examination the right thigh was found flexed at an angle of forty-five degrees with the normal line of the thigh (in a standing position). The thigh was adducted, and there was no motion at the hip-joint. The trochanter is situated one inch above the Nélaton line. The legs are of equal length, but owing to the flexion and adduction of the thigh the patient is obliged to wear a shoe-lift three and one half inches high to prevent tilting of the pelvis; and although she can bear her full weight upon the affected limb, on account of the deformity locomotion is more comfortable with the help of a crutch.

A CASE TREATED BY ABSOLUTE REST AND EXTENSION.

CASE XVII. A girl, ten years old. The patient for several months had suffered from the prodromata of hip disease, which culminated in a very violent attack which had lasted for ten days. The patient was found in a pitiable condition. Intense pain was caused by the slightest motion or jar. The right thigh was badly flexed and adducted; there was great tenderness, heat,

and swelling over the right hip-joint. No treatment had been undertaken. An extension by weight and pulley was applied, with almost immediate relief to the pain. The patient began and continued to sleep well, requiring no opiates, which had been needed. She was subsequently immobilized completely by a wooden frame, which preserved parallelism, allowed the patient to be carried about, and permitted the use of extension by weight and pulley. A few months later an abscess formed and discharged itself, leaving a sinus which remained open discharging slightly for nine months, but healing finally. At the end of a year a long extension splint was applied, and the patient allowed to go about. The improvement in the general condition was rapid. A year later, on examination, perfect parallelism of the limb was found. There was no shortening, and no pain, tenderness, or muscular contraction. There was motion to the extent of ten degrees at the hip-joint. The girl was able to bear her whole weight upon the affected limb, and was desirous of laying aside the splint, but was directed to continue its use for several months, during the day, removing it at night.

A CASE TREATED SOLELY BY MEANS OF APPARATUS.

CASE XVIII. B., boy, ten years old, suffering from empyæma, developed symptoms of hip disease, which was recognized by Dr. Fessenden, of Salem, the family physician. The thigh was held firmly flexed at the hip-joint; the muscular contraction of the adductors was well marked. There was no tenderness, but pain was elicited on jarring the limb, the pain being referred to the knee. Some atrophy of the thigh was present. The boy walked using a cane. A long extension splint was applied and thoroughly attended to by Dr. Fessenden, the patient wearing it for a year. The patient soon became able to go about with freedom, and was entirely free from pain. Motion of the joint developed to about fifteen degrees. The boy's condition, however, remained poor. The sinus from the empyæma continued to discharge, and moist râles could be heard over the lung. April, 1879, a large abscess had formed in the vicinity of the hip-joint; this was aspirated by Dr. Fessenden, and afterwards discharged itself, leaving a sinus, which healed in three months. Several months later the extension splint was discarded, and one applied designed simply to prevent jar upon the limb in locomotion; this was worn for nine months, there being during this time an improvement in the general condition. At the present time there is perfect parallelism of the lower limbs and no shortening. The trochanter is in its proper place, and slight motion remains at the hip-joint. The sinus in the thigh has not discharged for a year; the boy is able to walk about freely, though with a limp. There has been for more than a year perfect freedom from pain, tenderness, or muscular spasm on jarring. Two months ago apparatus was removed, and at the present time there has been no evidence of a relapse. This is still possible, as the boy's general condition is not good. Râles are still to be heard in the lungs, and the sinus from the empyæma continues to discharge.

SYNOVITIS OF THE HIP-JOINT; RECOVERY AFTER ABSOLUTE REST.

CASE XIX. A healthy girl, five years old, a patient of Dr. Tarbell of Boston, was suddenly seized with extreme pain in one limb. There had been no prodromata except that the child had been noticed to

limp a few weeks before. The pain was intense, particularly severe at night, and the patient required opiates. The slightest jar caused violent pain. The pain increased for a week, and began to diminish, but was aggravated by changing the sheets. On examination the child was found lying with both thighs flexed and abducted. The patient could move the toes and ankles, and such slight motion of the knee (the patient lay with the thighs spread apart and the legs bent at the knee) as did not move the thigh was possible, but any motion disturbing the hip-joints caused intense pain. There was no fever, and none of the other joints were affected, but there was swelling and tenderness over both hip-joints. As the child was absolutely immobilized by the disease, nothing mechanical for the purpose was tried. Extension was not used, as the pain had been decreasing. In a few days this had diminished greatly, and in a short time had disappeared. In a month the patient regained perfect motion at the left hip-joint, but some muscular resistance remained at the right hip, and a light extension by weight and pulley was applied. In three months the child walked about freely, and six months later she was considered perfectly well by her parents. There has up to this time been no relapse.

A CASE SHOWING THE NECESSITY OF CONTINUING EXTENSION FOR A LONG PERIOD.

CASE XX. A girl, nine years of age, who had been treated at various charitable institutions for hip disease, during a period of two years, entered the Children's Hospital, in the summer of 1878, with the left thigh badly flexed and slightly adducted, and a great deal of sensitiveness on jarring the limb. The deformity was such that the patient was unable to walk without a crutch. The limb was straightened gradually by means of extension. The patient needed for comfort a great deal of extension, but walked about readily with the extension splint well applied. This she has worn constantly for two years, attending school and enjoying excellent health. The limbs are nearly parallel; there is no shortening, and no pain or tenderness at the joint. The patient's condition was so good that the extension splint was removed, but after a week the thigh became slightly flexed; this increased until the extension splint was again applied.

NOTE. — The following case came to notice as this article was going to press. It appears to illustrate the disadvantages of Mr. Thomas's splint.

CASE XXI. A boy aged five, with hip disease, had been treated for several weeks by complete fixation in bed and an extension by weight and pulley. The symptoms, which had been acute, had subsided. There was no swelling, pain, or tenderness about the hip, and the case had been progressing favorably for some time. A Thomas splint was applied and accurately fitted. On the following night there was severe nocturnal pain, which increased on the next night. The next day the hip was found swollen and tender, and the limb sensitive on jar. The symptoms all disappeared immediately on removal of the splint and the readjustment of the extension. The boy has since been progressing well, as before. The coincidence was so marked that there could be no doubt that the disease had been aggravated by the splint, and that this exacerbation was stopped by its removal. It should be said that in six other cases where Thomas splints were applied nothing of this sort has occurred.

RECENT PROGRESS IN THE TREATMENT OF MENTAL DISEASES.

BY THEO. W. FISHER, M. D. HARV.

THE EFFECT OF WILLED MUSCULAR MOVEMENTS ON THE TEMPERATURE OF THE HEAD; A NEW STUDY OF CEREBRAL CORTICAL LOCALIZATION.

THIS is the subject of a prize essay by R. W. Ammidon, M. D., of New York.¹ The three new and nearly related branches of modern medical science, cranio-cerebral topography, cerebral cortical localization, and cerebral thermometry, are first reviewed in their latest aspects. Broca, Féré, and Turner substantially agree in locating the lower end of the fissure of Rolando, which is the most important landmark in the brain, six centimetres above and a little behind the external auditory meatus, and its upper end four and five tenths centimetres behind the bregma. The neighboring convolutions, supposed to contain the psychomotor centres of the opposite half of the head, body, and extremities, can easily be mapped out from this central line. An outline head is given with a modified system of Féré's lines, from which all the convolutions can be located on the living subject. Dr. Ammidon holds that, in spite of numerous negative and contradictory facts, most observers will to-day agree that there is a certain area in the human cortex of psycho-motor centres, and other areas possessing either sensory or psychical, or at least no motor, attributes. Ferrier, Hitzig, and Munk have laid out a map of psycho-motor centres, which is supported by a large amount of clinico-pathological evidence. Davy made the surprising discovery that in decapitated animals and in man the post-mortem temperature of the cerebral mass was often 8° to 10° F. below that of other organs. Lombard, in 1867, in his thermo-electrical experiments on the difference in temperature between the scalp and the extremities, noticed marked fluctuations, due to mental effort. For instance, there was always a rise of temperature in the head and fall in the legs on reading a book, graduated accordingly as the book was stupid or the reverse. The rise was greatest on reading aloud. His last work in 1879, on the effect of mental states on cerebral temperature, embodies the results of sixty thousand experiments, and demonstrates that small elevations of temperature result from intellectual and emotional excitement. Schiff, Broca, and Gray have still further elucidated this subject by their experiments, proving local increase of temperature under sensory and other forms of psychical excitement. Gray found that the temperature of the left hemisphere was the higher when at rest, but rose only half as much as the right after reading or lecturing. He was also able to locate a tremor of the brain by the thermometer. In insanity the highest average temperature (36.9° C.) has been found in furious mania and the lowest (36° C.) in dementia. In all mental diseases the occipital lobes have the lowest temperature and the frontal the highest. It is higher in the frontal lobes in mania, simple melancholia, and dementia, but higher in the parietal lobes in general paralysis and in melancholia agitata.

In the summer of 1879 it occurred to Dr. Ammidon that excessive use of peripheral parts might cause a sufficient rise in the cortical centre for that part to manifest itself in the scalp. This he demonstrated in a series of experiments which we do not propose to

describe in detail, but will refer the reader to his essay, the accompanying diagrams being essential to their correct understanding. Having determined by the thermometer the supposed cranial locations of the centres for all the larger muscles and groups of muscles, he transfers them by means of outlines to the corresponding convolutions, and finds but little of the cerebral convexity uncovered. The unaffected regions are the anterior half of the temporo-sphenoidal lobes and the extreme anterior portions of the frontal lobes. He finds a striking correspondence between the centres marked out by thermometry and those of Ferrier as far as the latter extend. He thinks some of the large elevations of temperature noticed by Lombard and Gray after mental action were due rather to the accompanying muscular action of the face in speaking and the arms in gesticulating. He claims to have added many centres to those of Ferrier, in parts before considered psychical or sensory.

ON THALAMIC EPILEPSY.

Dr. Hammond, in a recent paper,² describes a form of epilepsy not hitherto differentiated or associated with a definite brain lesion. He enumerates six varieties, described by Dr. J. Hughlings Jackson³ as follows: (1.) A sudden and temporary stench in the nose with transient unconsciousness. (2.) A sudden and temporary development of blue vision. (3.) A spasm of the right side of the face with stoppage of speech. (4.) A tingling of the index finger and thumb, followed by spasm of the hand and fore-arm. (5.) A convulsion almost instantly universal, with immediate loss of consciousness. (6.) Certain vertiginous attacks; loss of consciousness. Dr. Jackson does not make unconsciousness an essential part of his definition of epilepsy, which is "an occasional sudden and rapid discharge of gray matter in some part of the brain." Dr. Hammond thinks, as some of Dr. Jackson's forms do not tend to pass into the graver variety, they hardly deserve the name of epilepsy, and he would insist on unconsciousness as an essential symptom. He describes two cases of hallucination without delusion or convulsions, and with very brief unconsciousness, which he regards as epileptic, and due to an affection of the optic thalami. He regards the optic thalami as centres of sensory perception, in opposition to the opinions of Jackson, Ferrier, and Nöthnagel. Ferrier calls them "ganglia of interruption," and regards them as intimately connected with all sensorial functions, but thinks sensorial epilepsy is of cortical origin. Nöthnagel thinks it impossible to make a diagnosis of lesions of the thalami with any degree of certainty.

GENERAL PARALYSIS.

The following statements and opinions concerning general paralysis are taken from the retrospect of the *Journal of Mental Science*. Dr. Croemer records⁴ his observations of the temperature in general paralysis. He describes three forms of this disease: the maniacal with meningitis, the melancholic with a tendency to apoplexy, and the obtuse or apathetic with atrophy. In the former the temperature is the highest, and the daily fluctuations greatest. In the melancholic form the temperature is lower and less variable. In the

¹ Archives of Medicine, August, 1880.² On the Anatomical, Physiological, and Pathological Investigation of Epilepsies, West Riding Lunatic Asylum Reports, vol. iii. 1873.³ Zeitschrift für Psych., Band xxxvi. Heft 2 and 3.⁴ Archives of Medicine, April, 1880.

third variety there is little change until a falling temperature indicates the approach of death. As a rule the temperature is lower than in other diseases, and lower than in healthy patients. Paralytic attacks are always accompanied by a rise preceded by a fall of a very brief duration, indicative of the irritative stage.

Dr. Montyel denies the assertion of Dr. Doutebente that general paralysis tends to become chronic in cases with hereditary tendency to insanity.¹ The latter believes the time is not far distant when general paralysis will no longer be considered a form of insanity, but a morbid entity, an interstitial encephalitis. He also thinks an inherited tendency to insanity retards the progress of the disease. It is not hereditary, as insanity is, but is due to an inherited temperament, normal and non-morbid. Dr. Montyel, by careful observation in a large number of cases, shows that in general paretics inheriting insanity the disease has not shown any tendency to become chronic.

Dr. Baillarger arrives at the following conclusions in reference to the remissions in general paralysis:² (1.) Melancholia with paralytic stupor, or simple paralytic stupor, may assume most serious symptoms, and simulate advanced dementia, and nevertheless be followed by remissions after several months. (2.) When symptoms of dementia with some delusions develop rapidly during the first stage of general paralysis they may not belong to a genuine dementia, but to a pseudo-dementia, constituting a special condition not yet sufficiently examined. (3.) The existence of dementia at the beginning of general paralysis is frequently erroneously diagnosed from certain special characters, or because it is supposed to be masked by maniacal or melancholic delirium. (4.) The constantly varying, absurd, contradictory delirium of general paralysis is not a proof of the existence of dementia, and may be explained by a special condition comparable to certain cases of drunkenness. (5.) Pseudo-dementia in general paralysis cannot at present be distinguished from true dementia except by its rapid invasion and signs of stupor. (6.) There are no genuine remissions in simple, chronic, and progressive paralytic dementia.

Dr. Christian has written a series of articles,³ showing by tests with the dynamometer and by weighing that there is no real paralysis in general paralysis, but merely ataxia with debility, and no definite relation between weight and muscular power. The marasmus may be extreme and the strength fair, or the contrary. The patients preserve to the end the will and the power to contract their muscles forcibly, nor do the muscles undergo fatty degeneration. He concludes also, from careful observation, that the involuntary muscles are seldom paralyzed, the patient usually being dirty from absence of mind and dementia, though the sphincters may be occasionally really paralyzed. He believes that the disease is primarily an interstitial encephalitis, beginning in the intellectual centres, which are progressively destroyed. The motor centres are only irritated secondarily, and the motor disorders are proportionate to the intellectual. The fibrillar trembling, he thinks, is caused by an alteration in the muscular plasma.

USE OF QUININE WITH NERVOUS SEDATIVES.

Dr. Langdon C. Gray recommends the use of quinine in doses of five to ten grains when the bromides

are to be used in full doses. In epilepsy he found it increased their anti-epileptic potency, while diminishing or dispelling the bromism. It acts in a similar way with belladonna and hyoscyamine. He thinks it may be a general law that tonics and stimulants increase the sedation and lessen the depression of nervous sedatives. Chloral with whisky or given in a glass of sherry acts better than when given alone.⁴

GYNÆCOLOGY AS RELATED TO INSANITY IN WOMEN.

Dr. Alexander J. C. Skene is professor of gynecology in the Long Island College Hospital, and has charge of the gynecological practice at the King's County insane asylum at Flatbush, under direction of Dr. J. C. Shaw. This institution contains four hundred female patients, affording ample field for observation and practice. This experiment of employing an outside specialist in female diseases has long been urged as of vital importance, but judging from Dr. Skene's experience its importance has been very much overrated. He describes first⁵ the difficulties of investigation under the peculiar circumstances of the case, and the difficulty of obtaining information from the patients or the records. He admits the reaction of mental disease on other organs than the brain, as well as the causative influence of uterine disease in the production of insanity. Either may be primary and causative, or secondary and resultant. The gynecologist has the advantage in estimating this causative influence, since he can assure himself of the existence of uterine or ovarian disease in his patients and watch the advent of mental disorder in many cases, while for the hospital physician insanity obscures the diagnosis by changing or masking the subjective symptoms. He would rather find fault with gynecologists for having done so little, considering their opportunities to develop this branch of medical science, than with psychologists. The mistake has too often been made, as in Dr. H. R. Storer's book on *Insanity in Women*, of attributing too much to reflex action. In many cases of chronic uterine disease the impaired nutrition of the brain, due to prolonged suffering, is the direct cause of the insanity which follows, the local disease being merely the indirect predisposing cause. Exhaustion due to extraordinary functional activity of the sexual organs, as in frequent child-bearing and lactation is an important cause of insanity. This nervous exhaustion may or may not be accompanied by anæmia. Too many other burdens are added, both by rich and poor, to the demands of the age of reproduction. Insanity at puberty may not be due to reflex irritation, but to the mental and, especially, emotional excitement incident to that period. At the menopause imperfect elimination or suppression of an accustomed discharge may account for many cases of insanity. The puerperal state and venereal excess act through exhaustion rather than by irritation. No active disease of the sexual organs is present in a very large proportion of cases of insanity from sexual causes in women, so that local interference is rarely required. Dr. Skene shows much candor and good sense in thus admitting what has already been thoroughly understood by hospital physicians, whose conservatism has been so often denounced.

He next considers the effect of insanity on the reproductive system. Observations were made by him in the cases of two hundred insane women, from seven-

¹ *Annales medico-psychol.*, November, 1878.

² *Loc. cit.*

³ *Loc. cit.*

⁴ *Archives of Medicine*, October, 1880.

⁵ *Archives of Medicine*, February 1, 1880.

teen to forty-six years of age, for six months. Eight having died, of the remaining one hundred and ninety-two there were only twenty-seven who menstruated regularly and normally; thirty did not menstruate at all; four, once; eight, twice; ten, three times; eighteen, four times; thirty-four, five times; twenty-four, six times, at irregular intervals; thirty-one, seven times; and six, eight times, during the six months. The impaired general nutrition accounts for the absence of menstruation in most cases. Amenorrhoea is conservative and not abnormal in such circumstances. Deranged innervation, mental anxiety and shock, are also causes of this suspension. It was observed that in those patients who menstruated normally the insanity was of a mild type; and in general menstruation was affected in proportion to the degree of insanity. Excessive menstruation is usually due to uterine disease, and should be taken as evidence of that fact. Its presence is of course easily determined. Functional affections of the uterus are generally favorably affected by insanity, and often disappear spontaneously. This class of diseases therefore needs little attention from a gynaecologist in an asylum. That class of the insane who manifest unusual sexual desire, or whose ravings are obscene, mostly suffer from centric emotional disorder. Such cases may have had their origin in some disease or abuse of the sexual organs, which either disappears, or eludes the gynaecologist's diagnostic skill in the hospital.

Dr. Skene thinks that organic diseases of the uterus, when they exist, do exercise an important influence in causing insanity or in preventing recovery from it. He believes that acute insanity wholly due to disease of the sexual organs will be relieved by curing the primary affection, while chronic insanity will remain after the local disease is removed. He doubts the value of many of the cases reported in current medical literature in which speedy cure has followed local treatment. He gives the headings of a hospital case-book, arranged to bring out, by inquiry of relatives, the previous history of the condition of the sexual organs. He finds physical exploration of the pelvic organs of insane women beset with difficulty. It cannot be accomplished without ether, and he says, in view of the difficulty and injurious after-effects of the ether, the results did not justify the means. Nitrous oxide gas he found more agreeable and its effects occasionally useful. The local treatment does not differ essentially from that in sane patients, except where the coöperation of the patient is required.

ALCOHOLIC INSANITY.

Dr. Sutherland recently reported to the psychological section of the British Medical Association the result of his investigations in two hundred private insane patients, half males and half females. Of the males twenty-six and of the females six cases were alleged to have been caused by drink, but on closer examination eight of the male and two of the female cases were those in which alcoholic excess was only a premonitory symptom. The two classes are to be distinguished as follows: When intemperance is a cause the previous habits of the patient are those of a drunkard, and often no other influence can be detected. When intemperance is a symptom some other cause, such as a blow on the head, is found to concur, and the mental symptoms have somewhat preceded the intemperance. When alcohol is the cause the mental

symptoms are those of homicidal mania or suicidal melancholia with eccentric conduct. When intemperance is a symptom the mental phenomena are those of mild melancholia or delirium tremens. When intemperance is a cause the delusions are those of suspicion or grandeur; when a symptom they are of a quiet order. Acute cases of alcoholic insanity, in his experience, recovered, but if caused by intemperance the patient invariably took to drinking on his discharge; if drinking was a symptom the patient frequently remained sober. In chronic cases caused by drink there was a continued craving, and dementia rapidly supervened. If, on the contrary, drink was a symptom the mental condition remained stationary, and the patient was satisfied with a moderate amount of drink.

After a two days' discussion of this subject and the general causative influence of intemperance in producing insanity and idiocy, the president, Dr. J. Crichton Browne, remarked that medical psychologists could not sanction extreme views on either side. Alcohol, he thought, had an immediate deleterious effect upon the highest nerve centres, and might induce insanity in cases where no predisposition existed. Delirium tremens, mania à potu, monomania of suspicion, and alcoholic dementia presented a series of mental diseases due directly to alcohol. It might also be a contributory cause when concurrent with predisposition, nervous enfeeblement, and other causes, or a remote cause by leading to cranial injury, and then aggravating the effects of the blow. He thought the percentages of the commissioners in lunacy nearly correct, namely, 21.3 per cent. for males, and 7.9 for females. Mr. Mould reported one case of dipsomania, in which the patient had been maniacal one hundred and fifty times, recovering each time in three days.

HABITUAL DRUNKARDS' BILL.

At the last annual meeting of the British Medical Society, the report of the habitual drunkards' bill committee was accepted, and the committee continued. A resolution was passed unanimously that the "support of the association be requested, with the view of obtaining from the legislature some provision whereby habitual drunkards who become chargeable to the rates should be placed under such restraint as may lead to their being reclaimed." The committee hoped to raise the funds necessary for the establishment of a home for inebriates on the voluntary plan permitted by the new act, and expected then to induce magistrates to give inebriates the choice of detention in prison or in the home for an equal time, thus making the act in effect compulsory.

(To be continued.)

Reports of Societies.

RECORDS OF THE BOSTON SOCIETY OF MEDICAL SCIENCES, OCTOBER, 1879, TO MAY, 1880.

JAMES J. PUTNAM, M. D., SECRETARY.

TUESDAY, OCTOBER 21, 1879. DR. WHITE showed a hair such as was exhibited at the last meeting of the British Medical Association by Dr. Walter Smith, of London. *The diameter of the hair was subject to regular variations* of considerable amount, alternately narrowing and widening, and the optical effect to the naked eye was of light alternating with dark spaces.

The hair was from the head of a young man, and showed no pathological changes which might account for this manner of growth. The appearances suggested trichorexis, but this affection is really of a different nature.

DR. DWIGHT said that to similar light effects from contrast are to be ascribed the microscopic appearances seen in examining certain tissues, and giving rise to false notions of their structure.

DR. H. P. BOWDITCH spoke briefly of some experiments which he had made bearing on the question as to the *relative degree of assistance which we get from our sense of touch and muscular sense, and from our sense of sight, in the determination of the position of objects in space.*

It would seem at first glance as if the delicacy of the visual sense were much greater than that of the tactile sense, yet, as a matter of fact, we constantly use the latter in connection with the so-called muscular sensibility to correct the former: thus in detecting the flaws in a piece of nice joiner's work.

Dr. Bowditch's own experiments were to study the point whether the use of the sight or of the muscular sense best fixes the exact position of an object in the memory. To this end he had brought a small glass bead into different positions on the table, at times with the eyes open, but without placing it with the hand, at times with the eyes closed, while the finger was used to place the bead, and had then tried under which of these two conditions he was best able to locate the bead subsequently, with the end of a knitting-needle, the eyes of course being closed. The results were as follows:—

Location by touch: minimal error, 8 mm., maximal error 38 mm., average 19 mm.

Location by sight: minimal error, 8 mm., maximal error, 33 mm., average 11.4 mm.

Dr. Bowditch observed that he was well aware that it was not exact to speak of the sense of sight in these experiments, since in reality the tests principally concerned the ocular muscles.

Another method, not yet tested, would be to try comparative estimates of size of objects by the use of sight and of touch.

DR. BLAKE suggested that the best form of object for this purpose would be a raised circle, round which the finger should be carried, since with small objects more could be felt than would be exposed to sight from any one point of view.

DR. HAY spoke of various conditions which modify the judgment of the eye, as whether a line is horizontal or perpendicular, etc.

DR. JAMES said that these observations of Dr. Bowditch brought to mind the experiment of Helmholtz, who found that his ability to reconverge his eyes upon an object (finger) held up before him was increased if before opening his eyes he touched the object with his finger.

DR. BOLLES spoke of the degree to which education (which may be excessively rapid) comes into these problems as a complicating factor, as, for example, in the case of type-setters.

The delicacy of muscular sense as compared with sight is shown in the ease with which we move a slide under the microscope through the minutest distances.

DR. WADSWORTH thought it would be hardly fair to compare the efficiency of sight with that of touch in estimating the size of objects, since our very notion of

size and distance requires the use of both senses, one to supplement the other. Certainly by sight alone we could acquire no idea of distance.

DR. BOWDITCH admitted this as regards sight, but said that with touch alone (including muscular sense) it is manifestly possible to acquire quite accurate notions of distance, as in the case of the blind. Dr. Bowditch further suggested that behind education there might be anatomical and physiological reasons for the greater accuracy of different sets of muscles, as, for instance, the varying richness of their nerve supply.

DR. DWIGHT thought that the importance of this point could be overrated. The abducens oculi, for example, receives a larger supply of nerve fibres than any of the other ocular muscles, yet its functional power is not greater than theirs.

DR. BLAKE described the principle and use of the *tephophone* of Professor Meyer.

TUESDAY, DECEMBER 30TH. DR. GREEN showed and explained the use of *Professor Hughes's audiometer*.

Dr. Green said that he was not prepared to give his opinion of the instrument in full at this time, but could say that it was not an accurate measure of the hearing power in general as in relation to talking, but only in relation to this special kind of sound, which is a different matter, the hearing for one kind of sound being often impaired without that for another suffering any change (a fact which has its analogy in affections of the eyesight).

DR. FOLSOM gave an account of the investigations of the National Board of Health at Memphis, which will be published in substance elsewhere.

JANUARY 20, 1880. MR. BROWN, introduced by Dr. Bowditch, showed a *modification of the Fletcher microtome*, devised by himself.

DR. BOWDITCH considered the main advantage of the instrument to be its portability. It cuts fully as large sections as the other.

DR. EDES showed *casts of the pelvis of the human kidney*, one being from a case of interstitial nephritis. In this the branches were much smaller than in the other, which were normal.

It would appear from these casts that in most kidneys the arrangement of the pyramids is hardly so symmetrical as that described by Lenhossek.

He showed also some "corrosion preparations" of the sheep's kidney, the pelvis, artery, and vein being injected, and the parenchyma subsequently removed by hydrochloric acid and washing.

In these preparations the single papilla found in the kidney of the rabbit, cat, and dog, and the numerous ones of the human and larger mammalian kidney, are represented by a longitudinal ridge, joined at right angles by from five to seven branches on each side, curving downward around the sinus of the kidney.

Between the branches of the pelvis inclosing these elongated papillæ are, very symmetrically arranged, the branches of the venal artery and vein.

In reply to Dr. Cabot, Dr. Edes said he could not tell whether the walls of the pelvis were thickened or not.

In reply to Dr. Bowditch he said that he had carefully compressed the kidney before injecting, in order to expel the air.

DR. GREEN called attention to two new instruments which had been extensively lauded about the country: the *dentaphone* and the *audiphone*. Dr. Green outlined the anatomy of the ear, showing upon the board the membrane, tympanic ossicles, semicircular canals, and cochlea.

There are two distinct ways in which we hear: one by the transmission of vibrations from the air through the tympanum, ossicles, fluid in the internal ear, to the nerves; another by a similar transmission of vibrations through the bones of the head to the petrous portion of the temporal bone and finally to the same nerves.

Dr. Green quoted Dr. Trumbull in calling one of these modes of hearing acoustic, and the other nervous.

Many circumstances may produce resistance to the passage of sound in acoustic hearing: thickening of the drum, calcareous deposits, etc.; hence acoustic deafness. There may be also diseases in the nervous part of the ear; hence nervous deafness. In practice, it is customary to use noises and notes to test the acoustic hearing, and the common forms of tests for this purpose are the watch and the voice. In examining the nervous hearing the tuning-fork is used in contact with the bones of the head, the fork in vibration being placed on the median line of the forehead, or on the teeth, and in this way the sound is conveyed directly to the auditory nerve through the bones of the skull.

This test of the so-called bone conductor has been employed for a long time, and gives some surprising results, especially in one-sided acoustic deafness; for if in these cases the fork is placed upon the forehead and teeth, to the surprise of the patient, it is heard loudest or entirely in the diseased ear. The explanation of this is that the waves of sound being propagated in every direction, when they reach the tympanic cavity pass out, in part, through the conducting mechanism of the ear, and whenever this conducting mechanism is in its normal condition are lost to our perception; if, however, this mechanism offers more resistance than normal, as in acoustic deafness, from immobility due to thickening, calcifications, etc., the amount of sound which normally passes out and is lost is reflected back to the nerve of the ear. Any person can make experiment on himself in producing acoustic deafness by closing one meatus with the finger, and then testing with the tuning-fork; the closing of the meatus setting up the same sort of resistance as is offered by the calcified or thickened drum membrane.

The object of artificial aids to hearing is so to intensify the waves of sound that they can overcome the resistance opposed by these diseased conditions. The different forms of ear-trumpets and conversation tubes are calculated to bring about this intensification of the waves of sound for cases of acoustic deafness. The object of the audiphone and dentaphone is to utilize the bone conduction for ordinary hearing, just as it has been utilized for a long time in testing, namely, so to increase the sound that it may set the bones of the head in vibration, and thus eventually reach the auditory nerves without being obliged to pass through the conducting mechanism.

Although these two instruments were the first attempts systematically to use bone conduction for ordinary hearing, the principle is by no means new. At least ten years ago, Dr. Green had seen a patient with extreme acoustic deafness, who claimed that with a palm-leaf fan held in the teeth he got a marked improvement in his hearing. He showed also an instrument which was given him several years before, consist-

ing of a metallic plate attached to a bit of rattan, the end of the rattan being held in the teeth, and the voice being directed against the metal; the person who made this instrument had thought it of some assistance. He also spoke of a stick in the teeth placed against the sounding board of a piano, to convey music to very deaf persons, and said that instances of the application of this principle could be multiplied greatly. He then showed the two instruments under discussion: the audiphone, of which the essential point was a large plate of vulcanized rubber, which was sprung up against the upper teeth, and the surface of which, being large, was capable of receiving a considerable body of sound; and the dentaphone, which was a simple metallic plate, to the centre of which a string was tied, while the other end of the string was made fast to a flat bit of wood to be held between the teeth; the disk was inclosed in a wooden box, in which was a small, funnel-shaped mouth-piece to receive the sound.

The instruments were shown on account of the estimation in which they were held by a portion of the public, — an estimation which Dr. Green thought was immensely exaggerated.

He had tested the audiphone in a considerable number of cases, but had found that the gain at the best was but slight, being not more than from two feet without the instrument to perhaps four feet with it. They could only be useful where there was great acoustic deafness, and at the same time a perfect nervous structure.

As the acuteness of bone conduction varies greatly in different persons and at different ages the application of these instruments must vary with it, and as neither of them are of a character greatly to increase the intensity of sound the limit of their power must be very soon reached. If the capabilities of the bone conduction *with these instruments* exceeded those of air conduction *with a trumpet*, they would of course be the most useful aid; but in practice Dr. Green thought this would rarely be the case, and that we could exclude these instruments in all cases except those of the profoundly deaf.

If the resistance in the conducting mechanism had reached an extreme degree *and the nerve was perfect*, they would be of assistance up to their limit of power, which, he thought, would never be more than a few feet, unless in exceptionally acute bone conduction, — a rare condition.

The great obstacles to their general application even in these cases is, however, the pathological fact that when the conducting mechanism is as seriously diseased as in the cases under consideration the nervous structures have also become most seriously impaired in their functions. He condemned in severe terms much that had been printed in the non-scientific press as calculated to give a very erroneous impression of the power of these instruments.

The principle involved had a certain scientific basis, and the instruments were of use in a few cases.

— *Apropos* of the constantly increasing bad smells in which various quarters of Paris abound, a late number of the *Charivari* depicts a gentleman in the country standing over a manure heap inhaling its emanations. He replies to his son, when asked by him what he is doing there, "Going into training for a visit to Paris."

Medical and Surgical Journal.

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SINGLE OR DOUBLE SCHOOL SESSIONS.

As we write the question is pending, in regard to one of the public schools of Boston, between a single session of five hours, from nine to two o'clock in the morning, broken by two recesses (one of ten minutes at half past ten, and a second of twenty minutes at ten minutes past twelve), and a double session of three hours, from nine to twelve A. M., broken by one recess of ten minutes, with a second session, from two to four o'clock, four afternoons in the week.

The latter division of hours is the one which obtains in most of the public schools; the former division is the one which exists now, and always has existed in the school above mentioned.

The matter has excited considerable interest among those personally interested in this particular school. The discussion has been carried into the daily papers, enlarging its scope in the mean time so as to cover some important points as to the amount of strain to which growing children may properly be subjected, and the claim which it is judicious to make upon their consecutive attention. On all the points involved "medicus" and "materfamilias" have had an opportunity to express opinions. On the one side, parents, teachers, and scholars seem to be almost "solid" for the single session, and on the other some one else seems to be quite "solid" against it.

If the subject involved no more serious question than the dinner hour of the parents it would perhaps not be suitable for our consideration, but as the hygienic aspect of the matter has excited some attention we may permit ourselves a few words in regard to this. Chadwick, the best authority as yet on this topic, concludes that a child from the age of five to seven can attend to one subject for fifteen minutes; from seven to ten years of age, about twenty minutes; from ten to twelve, about twenty-five minutes; from twelve to sixteen or eighteen, about thirty minutes. The total daily mental work suitable for a young person from twelve to sixteen years of age, taking Chadwick's estimates as a basis, and making allowance for the rapid development at this period, is placed at from five to six hours. Where children are not over-stimulated to study out of school hours, these conditions, we believe, are fairly well met in our public schools by change of subject and short and repeated recess, whether the session be a single or a double one. But the question of the child's capacity for play and for continuous play is quite as important as his capacity for study, and the risks incident to repeated journeys to and from school in the very ex-

posed part of the city where this particular school is situated are not imaginary, and these two points seem to have been instinctively seized by children and parents in desiring a single session. In this case we think practical experience has the advantage over abstract reasoning.

REPORT ON THE PLAGUE IN RUSSIA.

THE French commissioner, Dr. C. Zuber, associate professor of epidemiology in the school of Val-de-Grâce, has finally sent in his report on the epidemic outbreak of plagues in the Russian provinces of Astrakhan, which our readers will remember excited so much attention in the winter of 1879. All the other commissioners having previously reported, it only requires the publication of such materials as the Russian government is possessed of to put the public in possession of all the facts and opinions which it is likely to get at, or which will be of service in forming a conclusion as to the origin, the characteristics, and the course of this epidemic. Dr. Zuber's report is full and the materials are well digested. The delay in making it up has not been altogether a disadvantage. He is decidedly of the opinion that the disease was imported from the Persian littoral on the Caspian to the Russian town of Astrakhan, the capital of the province of the same name, and from thence carried along the Volga to Vetlianka and the other stanitzas where the outbreak was so virulent. It will be remembered that there was a severe outbreak of plague at Resht, the principal Persian seaport on the east coast of the Caspian, in 1877-78. There is always an active trade by water between this place and Astrakhan, and there was eventually established a tardy and inefficient quarantine. Ambulant cases of abortive plague were soon observed in Astrakhan, and continued for some time. If this was plague, which Hirsch is disposed to deny, it was of a very mild type. It is not unusual, however, to find severe outbreaks of plague in the Levant preceded by a series of these "abortive" cases. We may therefore regard Dr. Zuber's hypothesis in regard to the origin of the Vetlianka epidemic as perhaps more probable than the one of importation in goods from Armenian towns, preferred by Hirsch, and certainly as more congenial than that of an autochthonous origin, suggested by one of the British commissioners, Colville. We are disposed to think Zuber right when, in opposition to Hirsch, he designates the malady as the true bubonic plague of the Levant, and declines to consider the claims of Indian or Pali plague, in which detail the erudition of Hirsch has only served to confuse a subject already none too clear.

INSANE CRIMINALS AND THE CRIMINAL INSANE.

WITH the arrangements which exist at present in most of the States the proper disposition to be made of an insane person who commits a criminal act and has criminal tendencies, and of a criminal who subse-

quently becomes insane, is not satisfactory and is perplexing.

Not long since attention was directed by a member of the Committee on Lunacy of the State Board of Massachusetts to the fact that there were among the prisoners at the state's prison a number who were clearly insane; some having become so since imprisonment, and others having probably been so before conviction. The impropriety of confining these men with the sound criminals and subjecting them to the same discipline was clearly pointed out.

The late message of the governor of Vermont has excited approving comment, on the other hand, because he notes as an abuse, requiring reformation, the practice of confining convicts who have become insane with the ordinary insane in the state asylum. The objections to such a course are obvious.

The state of things complained of in Vermont and in Massachusetts are both undesirable, but we do not see precisely how they are to be obviated without some special provision for the care of these cases.

MEDICAL NOTES.

—It is reported that Hon. Moses Kimball has resigned his position as a member of the State Board of Health, Lunacy, and Charity, and that Hon. Thomas Talbot has been appointed and confirmed as his successor. It may be remembered that it was under Mr. Talbot as governor that the old board of health was submerged.

—There was a pleasant meeting of the Massachusetts Medical Benevolent Society last Thursday evening at the house of its hospitable president, Dr. H. W. Williams.

—The *Medical Press and Circular* says that M. Tillaux brought before the Academy of Medicine, of Paris, on August 31st, a woman on whom he had performed hysterectomy, a year previously, for a cystic tumor. He had removed the greater part of the uterus and the tubes, leaving only the intra-vaginal portion of the cervix and a very small stump of the supra-vaginal portion. Both ovaries were preserved, but there was complete interruption of the connection between them and the trunk of the uterus which was left. Since the operation the woman had menstruated regularly every month; the periods lasted three or four days, but have been less abundant than before the operation. M. Tillaux has ascertained by examination with the speculum during menstruation that the blood comes from the stump of the uterus, and not from the vagina. With regard to the genital functions, the woman declared to M. Tillaux that they were performed better than ever, from all points of view. As a kind of contrast, M. Tillaux, last November, removed from a girl, aged twenty-two, both ovaries, which were diseased; since the operation the girl, who is wonderfully well, has menstruated every month exactly. From these cases we must conclude that the physiology of menstruation, in its relation to ovulation, which was considered as a question long settled, re-

quires new researches to account for these contradictory facts.

—The *Druggist's Circular* gives this useful information: "The decay of wood imbedded in the earth is difficult to guard against; but, according to the *Farmers' Gazette*, a simple precaution, costing neither money nor labor, will increase the durability of posts put in the ground by fifty per cent. This is simply to take care that the wood is inverted, that is, placed in the opposite direction to that in which it grew. Experiments have proved that oak posts put in the ground in the same position as that in which they grew, top upward, were rotten in twelve years, while their neighbors, cut from the same tree and placed top downward in the soil, showed no sign of decay for several years afterward. The theory is that the capillary tubes of the tree are so adjusted as to oppose the rising moisture when the wood is inverted."

—The *Cincinnati Lancet and Clinic* says: "From the *Medical Register* of the Illinois State Board of Health for 1880, it appears that the total number of practitioners in the State, when the law regulating the practice of medicine went into effect, July 1, 1877, was about 7400. Of these only 3600, or less than one half, were graduates or licentiates, the remaining 3800 being unqualified practitioners. The graduates and licentiates at the present time number 4825, and the non-graduates 1500; or, in other words, the number of qualified practitioners has increased by about 1225, while the number of unqualified practitioners has decreased by 2300, which gives a diminution in the total number of practitioners equal to 1075. The number of itinerants in the State in 1877 was 73; in 1880 only nine. The number of cancer doctors in 1877 was 23; in 1880 only four.

"Do we need any more eloquent plea for sound medical legislation? Are there no other States that require a similar purgation?"

—*Gaillard's Medical Journal* prints this item: "A distinguished friend from Aiken, South Carolina, sends the following appropriate anecdote in regard to the Philadelphia diploma 'mills':—

"The descriptions in the various journals of the breaking up of the bogus diploma mills in Philadelphia reminds me of the following amusing anecdote of Raballais: In his time, the old University of Montpellier was extensively engaged in the same sort of business that has just brought the University of Philadelphia to grief. Diplomas were not only sold, but in many instances even the presence of the applicant was dispensed with. Unable to resist the temptation to play a practical joke on the venerable faculty, and, perhaps, also with a view to checking their scandalous trade, Raballais addressed them a formal application in behalf of a young friend, dwelling with great fervor on his profound learning and wonderful skill in medicine. Inclosing the customary fee, he ended with the request that the degree of doctor of medicine should be conferred on this friend, whose name was Johannes Caballus. In the course of time the precious sheepskin arrived, but the rage of the faculty may be better imagined than expressed when the

report reached them that they had made a jackass a doctor, M. Johannes Caballus being none other than Rabalais' favorite ass." Rabalais, however, had another method of spelling his name than that adopted by the distinguished friend of Dr. Gaillard.

NEW YORK.

— The trustees of the American Museum of Natural History have just held their autumn reception at the new building on Manhattan Square, near Central Park. Among the acquisitions to the museum since the spring reception, in May last, are the following: A collection of sand and fresh-water shells containing the typical specimens delineated in the works of Biny and Bland, presented by twelve members; three skeletons of 'Australians, presented by Mr. Morris K. Jessup; an ethnological map of Africa, prepared by Professor Brickmore, the superintendent of the museum; an American archæological collection, deposited by Mr. Andrew E. Douglas; and several additions to the ethnological collection, including a war canoe from the South Seas, New Zealand weapons, carvings and stone axes, axes from New Guinea, and ornaments and carvings from British Columbia. The additions in the geological hall consist of some manuscript geological maps of Eastern North America, prepared by Professor Whitfield, and a number of encrinites and other fossils from several formations, purchased by the trustees out of the collection of Mrs. Braun, of Cincinnati. The specimens intended to illustrate Dana's Manual of Geology have been rearranged and labeled, and most of the birds forming the fine Maximilian collection have been remounted. The entire collection of shells belonging to the museum has also been remounted. Hitherto it has been the custom to place the shells on the shelves without reference to position, but now these have been arranged upon stands in such a manner as to show the position in which they rest upon the upper vertebrae during life.

— The irrepressible Tanner, having made a total failure of his lecture tour in this country, is said to be about to afflict the good people of England with a series of lectures in different cities and towns. He says he is completing arrangements with Dr. B. W. Richardson, of London, to make a forty days' fast there, in order to show the superiority of water over alcohol. The idea is to issue a challenge to the "brewers, distillers, and doctors," who shall select six men, as near Tanner's age and physical condition as possible, to enter into competition with him. They may use wine, beer, or any spirituous liquor they choose during the fast, while he will take only water.

Speaking of Tannerism, a mother and daughter near Syracuse have been fasting so persistently, under the influence of religious fanaticism, that the most serious consequences resulted. The girl, who was fourteen years of age, actually died of starvation, and the mother, whose system had become much reduced, was restored with difficulty.

— Our Brooklyn exchange remarks that malpractice suits will not occur there so frequently as formerly. The judges are falling into the habit of summa-

rily dismissing causes brought against medical men, if the plaintiff cannot show a good and substantial ground of grievance. The cases that have recently been taken up "on spec." have fared badly.

PHILADELPHIA.

— Dr. Elliott Richardson, of this city, reported at the last meeting of the Obstetrical Society a case in which he had recently performed a modified Porro operation. As the patient has now recovered, and as it is the first successful operation of this kind performed in this country, the following notes will be of interest. The patient was a dwarf, three feet and a half (forty-two inches) in height, and twenty-five years of age. She was connected with a circus, and was married to one of the attachés, a man of ordinary size. On account of great contraction of the pelvis, Cæsarean section near the termination of full term was decided upon. The operation was performed under carbolic spray, the usual precautions being observed. The Porro operation as modified by Müller was done in the presence of Dr. Harris, president of the Obstetrical Society, Professor Goodell, Professor Tyson, and Dr. Albert H. Smith, president of the County Medical Society. The child was extracted alive, and has survived the operation. The mother did well for more than a week, when she had an attack of milk-leg, which, however, did not prove to be serious. She has within the past week been reëxamined by the physicians who were present at the operation, who consider her as entirely recovered.

— Another very rare operation was successfully performed last month at the German Hospital. A patient over fifty years of age, who had been suffering for years with trifacial neuralgia, and had all of his teeth upon one side extracted without relief, came under the care of Dr. Ferdinand H. Gross, one of the attending surgeons to the hospital. It was a very severe case of tic, involving all three of the branches of the right fifth nerve. The patient was in almost constant torture from the rapidly recurring pains. By pressing upon the common carotid artery of the right side, the attending surgeon found that the pains were controlled; he therefore decided to adopt the recommendation of Nussbaum, and ligature the main arterial trunk. This operation was accordingly performed by Dr. F. H. Gross, a double ligature being thrown around the right common carotid artery. The patient rapidly recovered, and the effect was very marked. Immediate relief from neuralgia was experienced, and although in the course of about two weeks slight twinges were felt there has been no return of the painful spasms. About a month later the patient had an attack of pneumonia, which he attributed to exposure after leaving the hospital, but otherwise his recovery was not retarded, and the relief far surpassed his expectations.

— While reporting operations of interest it is worth recording that at the Jefferson Medical College Hospital two ovariectomies have been performed (in the private operating room) thus far this session. One was under the charge of Professor Gross, and the other of Dr. S. W. Gross. Both cases recovered.

Recent Literature.

American Health Primers. School and Industrial Hygiene. By DAVID F. LINCOLN, M. D. Philadelphia: Presley Blakiston. 1880.

This is the twelfth and last of the series of American Health Primers, edited by Dr. W. W. Keen. The writer, Dr. Lincoln, is the author of the article on School Hygiene in the volumes on Public Hygiene which were added to the American edition of Ziemssen's Cyclopædia. The little volume is considerably thicker than most of its predecessors in the series, and yet the remarks on Industrial Hygiene, which constitute Part II., have had to be compressed into thirty-eight small pages. Part I., on School Hygiene, is thoroughly well written, and covers the ground very satisfactorily. The information given is useful, and drawn from the best sources, both at home and abroad, and the opinions expressed are moderate and judicious. In Chapters II. and V., on Emotional and Mental Strain and on Amount of Study, the author warns his readers none too strongly against the tendency of our present public-school management to over-stimulation, and against the dangers of too prolonged or extended application. Such warnings cannot be too often repeated, especially in regard to girls between the ages of twelve and seventeen. The author thinks it certain that between those ages five hours of study and recitation, or, under the most favorable circumstances, six, are all that should be required. This amount is, however, as a rule exceeded in the public schools, if we include the study done at home. With proper limits it is certainly better to preserve discipline by stimulating the ambition rather than by flogging, but an excess of the former is quite as likely to do harm as the latter. We share the hope of Dr. Lincoln that the time may not be distant when light gymnastic exercises will be introduced into the public schools.

The Art of Prolonging Life. By CHRISTOPHER WILLIAM HUFELAND. Edited by ERASMUS WILSON, M. D., from the last London edition. Philadelphia: Lindsay and Blakiston. 1880.

This book was written in the latter part of the last century, in German, by Hufeland, a philosophic physician and professor of medicine in the University of Jena; it has gone through several editions in Germany, and enjoys considerable popularity there. In 1797 it was translated into English, but has never received in England, the present editor thinks, the attention it deserves. He has accordingly revised the old translation, and adapted it to modern tastes. The book has evidently been a labor of love on the part of the author and of the editor; the former, he tells us, having devoted his leisure hours during eight years of his life to its composition.

We do not doubt that both author and editor secured a prolongation of life through their congenial occupation, and we think the reader, too, will find enough of the curious, amusing, and instructive in the work, especially if he puts in practice all its good injunctions, to prolong his life at least for the length of time spent in its perusal. So that we think ourselves justified in assuring him that nothing will be lost, and something very possibly gained, by some hours devoted to Hufeland's reflections, which in general could

not be much more sage, and certainly would have been more hurried if he had lived to-day and in this country.

Medical Education and Practice in all Parts of the World. By HERBERT JUNIUS HARDWICKE, M. D. Philadelphia: Presley Blakiston. 1880.

A great deal of useful and convenient information is contained in this work in regard to the subjects of which it treats, and the information, as a rule, seems to be fairly accurate and reliable. The part devoted to the United States opens with the Philadelphia *Record's* full account of the bogus diploma traffic in that city. The position assigned to this narrative is perhaps unnecessarily prominent, but we do not think the exposure of those vile practices can be too minute or widely circulated. This diploma traffic, whether carried on in Pennsylvania, New York, or Massachusetts, was and is a disgrace to us, and we may as well acknowledge it. The excuse that less notorious irregularities prevail in other countries should avail us nothing.

Miscellany.

LETTER FROM LONDON.

MR. EDITOR, — At last the Guy's Hospital dispute has reached a stage at which, for a time at least, we may hope it will cease to be the burning topic of medical and quasi-medical conversation. The governing body of the hospital, a self-elected, non-medical, close corporation, have vindicated their absolute authority in a manner so ample that with not a few of them the feast may have been almost *ad nauseam*. The senior physician and surgeon, acting on behalf of themselves and their professional colleagues, addressed a note to the governors, by whom one sentence therein was interpreted "to impute to the governors that they knowingly persist in a mischievous system."

Thereupon, the senior officers' resignations were called for. Two days later, at a full meeting of the medical and surgical staff of Guy's Hospital, it was decided that the offensive communication should be withdrawn; that the medical officers should coöperate with the governors by sending two delegates to serve on a committee, which they had previously refused to participate in. It was generally understood, in medical as well as social circles, notwithstanding rumor to the contrary, which found support in one of the medical journals, that in the event of the governors still insisting upon the resignation of Dr. Habershon and Mr. Forster those gentlemen would be accompanied in their retirement by the whole of their colleagues, who felt themselves collectively responsible in the matter.

No one seems to doubt that the whole affair has been a blunder from the first, and it is curious to note that party feeling has been so high throughout as to prevent very many from realising that there might be two sides to the question viewed from without, and to allow comparatively few to keep before their eyes the main question, which daily was enwrapped in fresh side issues. The starting-point was eleven months ago, when, without any reference to the medical officers, the vacant post of matron was filled by the appointment of Miss Burt, a lady who had been found in charge of the nursing at the Leicester Infirmary, an institution with upwards of two hundred beds, into

which during four years she had introduced what was worthy of the title of a nursing system to replace the miserable and typical Gamp system which previously existed. Before going to Leicester Miss Burt had been trained in the St. John's House nursing sisterhood, and had done much service as a ward sister at Charing Cross Hospital, the St. John's House sisterhood having a contract for nursing both Charing Cross and King's College hospitals.

It would seem, therefore, that the real bone of contention can never have had reference to the person actually appointed, but rather to the method of her appointment. Herein, then, apparently lies the secret of the very compact front against which the doctors arraigned themselves when they took up cudgels in a controversy which can now bear no other good fruit than by indirectly promoting the appointment of a royal commission to investigate the constitution, funds, and management of the London hospitals, in accordance with a petition which not long since had the active support of the recently greatly abused treasurer of Guy's Hospital.

Throughout the struggle the lay papers have been freely used both as battle-fields and champions by the medical contingent. So blindly, indeed, have some of them been led that *The Times*, in a recent article, manifested at once its anxiety to make the best of the defeat and its sense of the weakness of the vanquished cause; for instead of adhering to facts it reversed them, in at least one important particular, though in so doing it contradicted a previous issue.

The Times, quoting Miss Burt's peremptory dismissal of some scores of nurses as an evidence of her administrative incapacity, when the same pointed more directly to her appreciation of the necessity of discipline, mentioned nurse Ingle, who was recently convicted of the manslaughter of a Guy's Hospital patient, as a sample of the women introduced to replace those old, tried, esteemed, and trusted nurses turned away at the bidding of caprice. Whereas the nurse Ingle was acknowledged at her trial to be one of the old nurses, highly appreciated by medical officers of Guy's Hospital, where she had been engaged from a date prior to the commencement of Miss Burt's reign there.

Last night the Medical Society of London held its opening meeting for the session, when Dr. J. Hughlings Jackson read the notes of A Case of Recovery from Symptoms of Gross Organic Brain Disease. The patient, a woman aged twenty-two, affording no indications of syphilis, had severe headache, no vomiting, reeling gait, total absence of patella tendon reflex, loss of sight, excessive double optic neuritis, loss of smell, and no deafness. She was placed upon five-grain doses of the iodide of potash; after a few days this was supplemented by mercurial inunction, and the treatment was rapidly followed by the disappearance of all the above positive symptoms, the loss of smell alone excepted; and, as Dr. Jackson pointed out, this exception was not very material, for no certain data were forthcoming to show from when the deficiency existed. He asserted that, in his opinion, it was perfectly fallacious to diagnose a syphilitic causation for the symptoms solely because they disappeared readily under treatment with mercury and iodide of potash. Though confessing that he had no experience of symptoms of gross organic cerebral disease which had not been so treated, he advocated thus treating such symptoms, regardless of their negative syphilitic history, on

the ground that post-mortem examinations exposed hæmorrhages, abscesses, tubercles, and tumors in the brain, which had during life produced symptoms insufficient to induce the patient to seek medical advice; and that therefore very gross organic brain mischief was demonstrated to be compatible with apparent health, and able to exist without proving fatal for a long period, whilst symptoms were not set up which in themselves would be disastrous.

He mentioned that either of the lesions named above, or indeed a piece of wood present in the cerebellum, might induce all the symptoms noticed in the case which he read. He thought that the recognition of the possibility of the subsidence under treatment of such symptoms, notwithstanding the continuance of their original cause, should lead to the comprehension and anticipation of the subsequent relapses so generally experienced in cases of this class.

Dr. Jackson repeated his well-known injunction that an ophthalmoscopic examination should be made in every case of severe headache, acknowledging his belief that very many cases of early gross organic brain disease would not be diagnosed from hysteria without the aid afforded by such systematic examination. He regretted that in this case there was no sufficient record regarding the pupillary action, expressed in warm terms his high appreciation of the clinical value of patella tendon reflex, and shadowed forth the possible importance of the combined observation thereof, in conjunction with the immobility of the pupils to the stimulus of light whilst acting in consonance with the accommodative function.

He dwelt on some points relating to the differential diagnosis of tabes dorsalis, and mentioned that, whilst necessarily familiar with the optic-nerve atrophy so frequently present with tabes dorsalis, he had never yet met with an inflammatory change of the optic disks in that disease. Incidentally, in reply to some criticism regarding his expressed disbelief in the syphilitic character of the particular case, he stated that he had met with only one case of syphilitic brain lesion situated in the particular position which he believed it was essential the mischief should have occupied to produce the reeling gait and other symptoms recorded of his patient.

Dr. Jackson expressed an inability satisfactorily to account for the comparative frequency with which the olfactory nerves escaped implication, at least so far as the sense of smell was concerned, in the symptoms of organic brain mischief, and recorded with some surprise that deafness occurred quite exceptionally as a symptom; but in relation to these points the author of course alluded to the fact he has so fully established, that frequently extensive double optic neuritis exists for a considerable time, and indeed exists and subsides, without any impairment of vision being noticed by the patient.

Dr. Broadbent availed himself of the occasion to assert his belief that in these cases the so-called optic neuritis is simply an ischæmia of the optic disk, due to fluid pressure, and in support of this hypothesis mentioned one of those interesting and rare cases of unilateral optic neuritis, with cerebral tumor, in which the ophthalmoscopic change was detectable only on the side opposite to the tumor, which an autopsy showed to have been so placed as to prevent the possibility of fluid entering the sheath of the unaffected optic nerve. This speaker further suggested that when blindness accompanied optic neuritis and other symptoms of or-

ganic brain lesion, then it was, as often as not, more easy to assume that the blindness was dependent upon some change at the ophthalmic centres than that it resulted from an ocular condition produced by the neuritis.

LONDON, October 19, 1880.

EXPLOSIVE PRESCRIPTIONS.

IN the report on *Materia Medica*, in the September number of the *Dublin Journal*, we find the following account of the dangers of certain combinations of drugs, many of which are so commonly used as to show somewhat startling possibilities:—

M. Kaueffer has lately published an interesting study upon this question, and, in an experience of more than thirty years, has witnessed several cases of explosion. One day he had occasion to prepare an ointment containing *chloride of lime*, *sulphur*, and other substances. When the two first-named bodies were triturated together a series of small detonations occurred, and the whole mass deflagrated violently. A similar ointment had been many times prepared without any difficulty, and the probable cause of the mishap was the presence of chlorate of lime in the chloride of lime. Upon another occasion some *oil of turpentine* was poured into a stone jug, when immediately the vessel broke, and a thick column of black smoke was disengaged. It was then discovered that a small quantity of sulphuric acid had been in the vessel into which the turpentine was poured.

Again, a highly dangerous substance, namely, *nitro-glycerine*, has been suggested in practice, and, under the name of glonoin, it has been adopted by homœopaths. This medicament is kept in little glass vessels, which, upon the least shock, burst like bombs.

Then there are the *hypophosphites*, which have given rise to several accidents. Without a thought of danger, a young pupil, in dispensing a prescription, rubbed up a mixture of two and one fourth parts of hypophosphite of lime, three and three fourths parts chlorate of potash, and one third part of lactate of iron. Suddenly the whole mixture took fire, and there was a violent detonation, scattering the *débris* in every direction. The young man received such severe burns that his life was endangered for several weeks. Although, no doubt, the chlorate of potash in this case was a potent factor, yet it is well known that trituration of hypophosphite of lime alone is very liable to cause explosion, especially if the temperature be at all elevated, and such explosions have occurred in various quarters. Furthermore, solutions of oxidizing bodies in glycerine demand great care, and have more than once led to violent explosions. Thus a mixture of *chromic acid* and *glycerine* has been recommended for affections of the mouth, etc., and dispensers should know that in order to avoid accidents the acid must be added drop by drop to the glycerine. The following mixture was ordered for external use, namely, seven and one half grains of chromic acid and sixty grains of glycerine. The chromic acid was mixed with water in a flask, and the glycerine mixed with it by shaking. Suddenly the contents of the flask exploded with a loud report, flying all about the shop, while the vessel remained unharmed in the hands of the astonished apothecary, and was covered with a black mass. A similar accident happened with an apothecary of Mont-Doré.

Permanganate of potash likewise acts energetically upon glycerine, alcohol, ether, essential oils, gallic and tannic acids; and if carelessly managed will cause explosion or inflammation. An unlucky apothecary attempted to dispense the following formula:—

Permanganate of potash		10 parts.
Alcohol,	} of each	15 "
Distilled water		

Scarcely had the bottle been corked and put up, when the liquid became so heated that an explosion took place, and the boiling fluid spurted into the face of the surprised pharmacist. He nearly lost the sight of one eye, and was disabled from work for more than a month.

It has been long known, as was pointed out in a former report, that pills containing *oxide of silver* and *creasote*, or carbolic acid, or morphia, are apt to develop so much heat as to set fire to the box in which they are placed, and a lady received a formidable burn through carrying a box of such pills in her dress. With this phenomenon, doubtless due to rapid reduction of the oxide of silver, we may connect an accident which happened at New York by the addition of nitrate of silver to essential oil of almonds, with the object of eliminating from it hydrocyanic acid. The dangers which phosphorus presents are too well known to render necessary any allusion to the precautions to be taken in keeping and handling this metalloid.

Another substance which may be formed under certain circumstances is a violent detonating agent, namely, *iodine of nitrogen*. This compound is produced by the union of iodine, or chloride of iodine, with ammonia, or carbonate of ammonia, or even by mixture of an alcoholic solution of iodine with liquor ammoniac in excess, and a suitable quantity of water.

The following prescription is cited by Mr. Rice as having led to an explosion in the United States:—

Iodine		15 parts.
Comp. camphor linim.	}	aa 60 "
Soap liniment		

The camphor liniment contains sufficient ammonia to account for the formation of iodide of nitrogen. The same writer mentions another prescription, which it was impossible to execute:—

Ammoniated mercury		20 gra.
Iodine		15 gra.
Water		a few drops.
Lard		1½ ounces.

As soon as the two first substances were mixed and moistened with water detonation occurred. The relative rarity of explosion with formulæ of this kind is easily explained, because trituration is usually affected in presence of abundance of water, which hinders such a result. The practical conclusion then is that when one has to deal with mixtures of tincture of iodine and solution of ammonia small quantities only should be operated on at a time.

Chlorate of potassium, on account of its powerful oxidizing properties, demands especial caution in combining it with other drugs. Its action upon hypophosphites has been already adverted to, and great care must be exercised in mixing potassium chlorate with sulphur, or certain metallic sulphides, for example, sulphide of antimony. A mixture of potassium chlorate and tannin is likewise dangerous, and these bodies, when ordered in substance, should be put up separately. A dentifrice powder of catechu and potassium

chlorate occasioned a violent explosion when rubbed up in a mortar, and even friction with a dry brush might possibly cause a detonation on a small scale in the very mouth of a patient. Chlorate of potassium and glycerin also constitute a dangerous mixture. Some time since a gargle prescribed by one of the most distinguished physicians in New York, and containing equal parts of potassic chlorate, perchloride of iron, and glycerine, exploded violently, not in the pharmacy, but in the messenger's bag. Another time a similar mixture exploded soon after its preparation under the influence of the solar rays, and set fire to the house.

WHALE-TENDON LIGATURES.

MR. EDITOR, — In the letter of October 28th, from Mr. J. T. Gilman, upon the above subject, he says his attention was first directed to the whale tendon as offering material for ligatures in the winter of 1878, after reading the article No. 43 in No. 77 of *Braithwaite's Retrospect*; and he also says he thinks he was the first to suggest the use of whale's tendons for surgical purposes.

In the month of February, 1877, Dr. Ishiguro was ordered by the Japanese government to take charge of the hospital at Osaka. While there he set about seeking a substitute for Lister's catgut ligature, on account of its excessive cost and the inconvenience of its use. He hit upon the whale tendon as offering a satisfactory substitute, and after the trials and tests which I gave in my communication of September 30th made his invention publicly known under the name of "Ishiguro's ligature," in October, 1877. Shortly after this, specimens were sent by him to Professor Gross, of Philadelphia, and in a letter dated 6th of April, 1878 (and it was not until July of the same year that the *Braithwaite* alluded to was issued), Dr. Ishiguro was informed by Professor Gross that he had inserted an account of the ligature in the *American Medical Journal*, highly praising the same as of great use in surgical operations. Samples were also sent to Strasburg, and favorable notices were given of the ligature in the medical journals there.

It will be seen, then, from the above that Dr. Ishiguro had perfected and made public his invention a year or more before Mr. Gilman's attention was first directed to the subject by the article in the July *Braithwaite*, 1878, and that this invention was known both in Europe and America before July, 1878.

We must then allow to Dr. Ishiguro priority in using and making known the whale-tendon ligature, although Mr. Gilman seems to have conceived the idea of this use of the whale tendon independently.

Dr. Ishiguro says that in Japan the ligature has rapidly established itself in estimation among the medical men, and there is no other than that used now in the military hospitals. Respectfully yours,

EDWARD O. OTIS.

ExETER, N. H., November 1, 1880.

FETID MENSTRUATION RELIEVED.

MR. EDITOR, — In the case of the spinster reported in the number of the JOURNAL for October 28th, Obstetrical Society's Report, after trying a variety of remedies without avail, by the advice of Dr. Fordyce Bar-

ker, I administered capsules of apiol three days before and during the monthly period, with the result of abolishing the annoyance.

Shortly after, a married lady, who had to avoid society, and even keep her room on account of the fetid nature of the menses, was completely relieved by the same treatment.

C. ELLERY STEDMAN.

DORCHESTER, October 28, 1880.

MEDICAL REGISTRATION IN PHILADELPHIA.

THE Philadelphia *Medical Times* in commenting upon the late bogus-diploma business expresses the opinion that action was prevented not so much by indifference as by the feeling that it was hopeless to contend against the influence of politicians, some of whom, it says, have apparently assisted in or winked at the nefarious practices of Dr. Buchanan and his associates. It hopes that public opinion will now take the form of a movement to obtain a medical registration law from the next legislature. It further remarks: We ourselves would like to see legislation go farther than this. If our civilization continues the day will assuredly come when those who would enter upon the practice of medicine will be compelled to pass a public state examination, but for this the times are not yet ripe. There are yet too much honest difference of opinion and too many conflicting interests in the profession to expect that it should unite in the effort to obtain legislation looking to such an end. It is different with medical registration. We do not think that any one of influence will claim that an attempt at registration can do injury, though many may believe that it will be futile. The good to be obtained from a strictly enforced registration is patent. The credentials, as it were, of every man would be public to all citizens, and the not a few who possess no credentials would be driven out of the commonwealth.

Such a law could be based upon the one adopted last winter by the Albany legislature.

There is no body, except the State Medical Society, to which it would be more becoming to inaugurate a movement looking towards the obtaining of a registration law than the Philadelphia County Medical Society. Is there not public spirit in it sufficient for the purpose? Let us make the experiment. With a registration law working well in New York and Pennsylvania, it would not be long before the smaller States would follow.

AMPUTATION OF THE HIP-JOINT.

MR. STOKES has reported to the Dublin Pathological Society a successful case of amputation at the hip-joint. He adopted Davy's method of arresting hæmorrhage by the introduction of a lever into the rectum, and the operation was almost a bloodless one. Lister's antiseptic dressings were vigorously carried out. To the bloodlessness of the operation and the antiseptic precautions Mr. Stokes attributes his success. It is probably the first successful amputation at the hip on an adult in Ireland. The operation was done for disease of the hip. The age of the patient and the large extent of the femur involved decided the operator against excision.

An account of the case is given in the *Dublin Journal*.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 30, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Diarrhoeal Diseases.	Scarlet Fever.
New York.....	1,209,561	544	227	26.10	12.50	16.36	5.70	2.76
Philadelphia.....	901,380	300	82	14.00	6.33	5.33	—	1.00
Brooklyn.....	564,400	—	—	—	—	—	—	—
Chicago.....	503,298	—	—	—	—	—	—	—
St. Louis.....	—	120	—	25.00	6.67	1.67	5.00	—
Baltimore.....	393,796	158	74	28.48	10.76	3.80	2.54	7.61
Boston.....	363,938	151	47	25.83	12.58	8.61	5.30	.80
Cincinnati.....	280,000	78	28	17.95	8.97	8.97	1.28	1.28
New Orleans.....	210,000	115	37	26.96	6.96	6.09	6.96	1.74
District of Columbia.....	180,000	79	23	21.52	13.92	3.80	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	58	24	48.28	17.24	6.90	1.72	15.52
Buffalo.....	155,159	49	20	40.82	26.53	6.12	4.08	4.08
Milwaukee.....	127,000	48	27	25.00	14.58	12.50	2.08	8.33
Providence.....	104,862	36	—	27.78	5.56	11.11	5.56	13.89
New Haven.....	63,000	17	10	25.30	11.76	5.88	—	—
Charleston.....	57,000	28	8	10.71	—	14.29	7.15	—
Nashville.....	43,543	20	3	20.00	—	15.00	—	5.00
Lowell.....	59,340	21	10	19.05	9.52	19.05	—	4.76
Worcester.....	58,040	25	6	20.00	—	12.00	—	12.00
Cambridge.....	52,860	18	6	5.56	5.56	11.11	—	—
Fall River.....	48,626	24	18	37.50	20.83	8.33	4.17	4.17
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	14	2	7.14	7.14	—	—	—
Springfield.....	33,536	8	3	12.50	12.50	25.00	—	—
Salem.....	27,347	7	1	14.29	14.29	14.29	—	—
New Bedford.....	27,268	5	0	—	—	—	—	—
Somerville.....	24,964	—	—	—	—	—	—	—
Holyoke.....	21,961	—	—	—	—	—	—	—
Chelsea.....	21,780	8	1	37.50	37.50	—	—	—
Taunton.....	21,145	6	2	16.67	16.67	—	—	—
Gloucester.....	19,288	4	2	—	—	—	—	—
Haverhill.....	18,478	3	2	100.00	33.33	—	33.33	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	4	1	25.00	25.00	—	—	—
Fitchburg.....	12,270	3	—	—	—	—	—	—
Twelve Massachusetts towns.....	86,507	24	6	25.00	20.83	—	—	—

Deaths reported 1975 (no returns from Brooklyn or Chicago); 670 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 479, consumption 322, diphtheria and croup 213, lung diseases 182, diarrhoeal diseases 68, scarlet fever 60, typhoid fever 53, malarial fevers 36, whooping-cough 16, cerebro-spinal meningitis 13, small-pox 10, erysipelas five, measles three, typhus fever one, malignant pustule one. From *typhoid fever*, Philadelphia and Boston nine, St. Louis seven, Pittsburgh six, New York four, Baltimore and District of Columbia three, Cincinnati, Buffalo, Nashville, and Worcester two, New Orleans, Providence, Charleston, and Lowell one. From *malarial fevers*, New Orleans 10, New York nine, St. Louis seven, District of Columbia three, Baltimore and New Haven two, Boston, Cincinnati, and Nashville one. From *whooping-cough*, New York seven, Baltimore five, Philadelphia Cincinnati, Pittsburgh, and New Haven one. From *cerebro-spinal meningitis*, New York four, St. Louis and New Orleans two, Baltimore, Cincinnati, New Haven, Fall River, and Quincy one. From *small-pox*, Philadelphia 10. From *erysipelas*, New York four, Baltimore one. From *measles*, Boston, Pittsburgh, and Fall River one. From *typhus fever*, Buffalo one. From *malignant pustule*, Haverhill one.

Thirty-seven cases of diphtheria, nine of scarlet fever, and one of small-pox were reported in Boston; diphtheria 19, scarlet fever 17, in Milwaukee; diphtheria 10, whooping-cough eight, scarlet fever six, typhoid fever three, cerebro-spinal meningitis one, in Providence; diphtheria and scarlet fever five, typhoid fever four, in Cambridge; diphtheria eight, scarlet fever seven, in New Bedford.

In 27 cities and towns in Massachusetts, with a population of

902,269 (population of the State 1,783,812), the total death-rate for the week was 18.83, against 19.53 and 21.23 for the previous two weeks.

For the week ending October 9th, in 149 German cities and towns, with an estimated population of 7,724,099, the death-rate was 25.1. Deaths reported 3733; 1966 under five: pulmonary consumption 460, acute diseases of the respiratory organs 210, diphtheria and croup 163, scarlet fever 106, typhoid fever 93, whooping-cough 77, measles and röteln 34, puerperal fever 24, cholera (Aachen) one, typhus fever (Mannheim) one, small-pox (Königsberg) one. The death-rates ranged from 12.7 in Darmstadt to 34.7 in Danzig; Königsberg 30.4; Breslau 24.5; Munich 32.9; Dresden 22.2; Berlin 29.2; Leipzig 23.8; Hamburg 20.2; Hanover 17.5; Bremen 21.5; Cologne 28.3; Frankfurt 21.6; Strassburg 19.6.

For the week ending October 16th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 21.4. Deaths reported 3073: acute diseases of the respiratory organs 273, diarrhoea 232, scarlet fever 141, fever 75, whooping-cough 56, measles 43, diphtheria 11, small-pox (London) six. The death-rates ranged from 15 in Bristol to 31 in Salford; Sheffield 19; Manchester 20; London 20; Birmingham 20; Leeds 22; Liverpool 25. In Edinburgh 27; Glasgow 21; Dublin 33.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 29 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 12, typhoid fever five, diphtheria and croup five, measles four, scarlet fever three, small-pox three.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.
1880.																			
Oct. 24	29.826	37	48	34	72	45	61	59	W	NW	W	20	20	24	O	F	C	—	—
" 25	30.085	38	49	29	57	26	91	58	NW	NW	NW	16	18	6	C	C	C	—	—
" 26	29.912	48	54	30	79	41	80	67	W	S	S	1	5	7	T	O	R	5.00	.02
" 27	30.061	43	52	36	93	52	63	69	W	NW	NW	6	18	17	F	F	O	—	—
" 28	30.307	39	47	33	79	58	65	67	NW	SE	O	10	6	0	O	C	C	—	—
" 29	30.311	40	50	27	78	62	74	71	O	E	S	0	4	3	O	F	O	—	—
" 30	29.954	49	54	40	84	73	100	86	SE	E	SE	4	4	10	C	O	F	6.35	.08
Week.	30.065	42	54	27					W	NW	NW							11.35	.10

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

EDUCATIONAL NOTES.

— In the educational number of the JOURNAL the following addition should have been made to the corps of instructors at the University of Pennsylvania: Faculty, Wm. F. Norris, M. D., Clinical Professor of Diseases of the Eye; George Strawbridge, M. D., Clinical Professor of Diseases of the Ear; Horatio C. Wood, M. D., Clinical Professor of Nervous Diseases; and Louis A. Duhring, M. D., Clinical Professor of Diseases of the Skin. The auxiliary faculty is constituted as follows: Charles J. Stillé, I.L. D., provost and *ex officio* President of the Faculty; Dr. John J. Reese, Professor of Medical Jurisprudence and Toxicology; Samuel B. Howell, Professor of Mineralogy and Geology; Joseph T. Rothrock, B. S., Professor of Botany; Jos. G. Richardson, M. D., Professor of Hygiene; A. J. Parker, M. D., Professor of Comparative Anatomy and Zoölogy. The following lectureships constitute the spring session: *Regional Anatomy*, Dr. H. Lenox Hodge; *Operative and Minor Surgery*, Dr. Charles T. Hunter; *Veneral Diseases*, Dr. J. Wm. White; *Orthopaedic Surgery*, De Forrest Willard; *Physical Diagnosis*, Dr. R. G. Curtin; *General Symptomatology*, Dr. Lewis Starr; *Ophthalmoscopy*, Dr. L. D. Risley; *Refraction and Accommodation of the Eye and Operative Ophthalmic Surgery*, Dr. E. D. Shakespeare; *Practical Pharmacy*, Dr. Adolph W. Miller; *Histology*, Dr. J. H. C. Simes; *Practical Obstetrics*, Dr. Elliott Richardson. *Operative Obstetrics*, Dr. Daniel Bray; *Electro-Therapeutics*, Dr. C. K. Mills; *Laryngoscopy*, Dr. Carl Seiler; *Pathology of the Urine*, Edward T. Bruen; *Diseases of Children*, Dr. John M. Keating, M. D.; *Descriptive Anatomy of the Bones and Joints*, Dr. Chas. B. Nancrede.

— At the Jefferson College clinical instruction is given during the winter term by the faculty and Prof. W. Thomson at the hospital; during the remainder of the year the clinics are under the charge of the hospital staff: Drs. J. H. Brinton, R. J. Lewis, and S. W. Gross, *Surgery*; Drs. O. P. Rex, J. C. Wilson, J. Solis Cohen, and W. W. Van Vulzah, *Medicine*; Drs. F. H. Getchell and J. Ewing Mears, *Gynecology and Diseases of Children*; Prof. W. Thomson, *Ophthalmic Surgery*; and Dr. Laurence Turnbull, *Aural Diseases*.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 30, 1880, TO NOVEMBER 5, 1880.

BAILY, E. I., lieutenant-colonel and surgeon. When relieved by Surgeon Moore, to proceed to Wilmington, Del., and report, by letter, his arrival to the surgeon-general. S. O. 232, A. G. O., October 28, 1880.

MOORE, JNO., major and surgeon. Relieved from duty with army medical examining board in New York city, and to report in person to commanding general, Department of the Columbia, for duty as medical director of that department. S. O. 232, A. G. O., October 28, 1880.

MEACHAM, F., captain and assistant surgeon. Granted leave of absence for one month. S. O. 234, A. G. O., October 30, 1880.

PATZKI, J. H., captain and assistant surgeon. Assigned to duty at Jackson Barracks, La. S. O. 126, Department of the South, October 29, 1880.

HEIZMANN, CHARLES L., captain and assistant surgeon. The extension of his leave of absence of September 28, 1880, from head-quarters Division of the Pacific and Department of California, is further extended two months. S. O. 234, C. S., A. G. O.

LAUDERDALE, J. V., captain and assistant surgeon. Relieved from duty as post surgeon at Newport Barracks, Ky., and assigned to duty at McPherson Barracks, Ga. S. O. 127, Department of the South, November 1, 1880.

WOOD, M. W., captain and assistant surgeon. At the expiration of his present leave of absence to report in person to commanding general, Department of the East, for assignment to temporary duty. S. O. 232, C. S., A. G. O.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, 19 Boylston Place, on Saturday evening, November 13th, at seven and a half o'clock. Dr. H. D. Hicks will report A Case of Mitral Disease.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAVEN, M. D., Secretary.

CORRECTION. — The number of students graduated by the University of Pennsylvania the past year, as given in our educational number, should have been 116 instead of 91, which was the number graduated during the preceding year.

ERRATUM. — The signature to communication on Absence of Lochia, in the last number, should have been George A. Oriat, Jr., M. D.

BOOKS AND PAMPHLETS RECEIVED. — Treatise on Therapeutics. By Trouseau and Pidoux. Translated by D. F. Lincoln, M. D. Vol. III. (Wood's Library.)

Report of the Pennsylvania Hospital for the Insane for the Year 1879. By Thomas S. Kirkbride, M. D. Philadelphia. 1880.

A Text-Book of the Physiological Chemistry of the Animal Body, including an Account of the Chemical Changes occurring in Disease. By Arthur Gamgee, M. D. Vol. I. London: Macmillan & Co. 1880.

On the Use of Sulphur and its Compounds in Diseases of the Skin. By L. Duncan Bulkley, M. D. (Reprint.)

On the Management of Infantile Eczema. By L. Duncan Bulkley, M. D. (Reprint.)

Anæsthesia in Labor. By D. M. Barr, M. D. (Reprint.)

Acts of the Legislature of Louisiana establishing and regulating Quarantine for the Protection of the State; also Rules and Regulations of the Board of Health of the State of Louisiana, and Health Ordinances of the City of New Orleans. Collected and classified by Joseph Jones, M. D. New Orleans. 1880.

A Contribution to the Relative Value of the Different Operations for Delivery in Narrow Pelves, with the History of Eighteen Cases. By Aug. F. Erich, M. D. (Reprint.)

Light in the Public Schools, and School Life in Relation to Vision. A Paper read before the Sanitary Convention at Detroit, January, 1880. By C. J. Lundy, M. D. (Reprint.)

Original Articles.

PILO-NIDAL SINUS.

BY R. M. HODGES, M. D.

A DEEP, symmetrical, and somewhat conical dimple occasionally, indeed frequently, exists near the tip of the coccyx, well forward toward the anus, in the cleft between the nates. Sound and natural as regards integument, resembling to a certain extent the navel, with the dimensions of which it may be compared, it is fixed at its deepest portion, and the depression cannot be obliterated or made shallower by stretching the skin. Congenital in origin, it attracts the attention of nurses or mothers, and in infancy inquiry is made as to its significance. Later in life, opportunities for inspection being less frequent, it passes unobserved. It probably represents an imperfect union of the lateral halves of the body, involving the integument only.

Justification for assuming that so trifling a defect may be ascribed to this cause is found in certain imperfections, as trivial, occasionally noticed in various parts of the body. For example, in some cases of hare lip a complete lateral fissure is accompanied by a slight linear furrow on the other side of the median line, seemingly the scar of an operation already performed, but in reality the indication of an incompletely double hare-lip, or imperfect union of the embryonic intermaxillary fissure. Cleft of the uvula, of the iris, some of the slighter degrees of hypospadias, represent deformities much less in amount, but of similar origin to this indentation over the coccyx.

Under certain circumstances this apparently unimportant dimple becomes the seat of a pathological process, which, like the dimple itself, has scarcely attracted attention. Two instances in which it was observed by Dr. J. Mason Warren were published by him in 1867. He speaks of these as similar to other cases, "numbering perhaps eight or ten," which had fallen under his notice, but which he had nowhere seen described. Although the occurrence is well known to both surgeons and students at the Massachusetts General Hospital, and perhaps elsewhere, this reference constitutes, so far as I can learn, the only allusion to the subject in medical literature. The occurrence referred to is this:—

A fistulous opening—rarely more than one—over the coccyx, in the immediate vicinity of the anus, and always in the median line, annoys the patient by the itching, irritation, and discharge of pus by which it is accompanied. It is generally stated to have existed for a long period, and is supposed to be fistula in ano,—an impression which, if at first shared by the surgeon, is quickly corrected. A director or probe being introduced passes at considerable depth above and below the opening, indicating a cavity of an inch or more in diameter, but does not enter the gut. On exposing its interior by an incision, a certain quantity of pus is evacuated, and a lock of loose hair is found occupying the space, more or less matted and curled, and of varying size and amount. The hairs of which it is made up are always short, without bulbs, and correspond in color to those of the patient. The cavity containing them has no cyst, or lining membrane, or

other characteristic suggestive of a congenital dermoid cyst; merely the granulating walls of an ordinary suppurating sinus, with no trace or suspicion of hairs growing from its surface, or of isolated spots of cuticle from which they might have been shed. The lock of hair being removed, the sinus fills up with new tissue, and in due time heals by a solid cicatrix.

This sinus is never found in children, never in men who do not have a great amount of hairy growth about the nates, and so rarely in women that the records of the Massachusetts General Hospital include but a single instance (mentioned by Dr. Warren), and in this, for a female, there was an unusual pilous development.

Explanation of this phenomenon is to be found in the anatomical peculiarity first spoken of, and in some of the peculiar properties possessed by hair. Short hairs show a remarkable tendency to "stay put" wherever they lodge. The "hair balls" found in the stomachs of cattle, due to their habit of licking each other, and which attain sometimes the dimensions of a child's head, remain for long periods of time in the cavity of that organ. This latter fact and the disposition of hair to felt together are shown by its gradual consolidation into the solid masses which, when cut in halves, serve in Texas ranches as scrubbing-brushes for floors.

In the navels of dirty persons, hairs, together with lint from underclothing, and other body debris collect together in a concretion, sometimes provoking quite severe local inflammation. The sparse body hairs of persons careless as to cleanliness and friction of their skins often bury themselves beneath the epidermal layer of the integument. It is a less familiar fact, however, that a horse-hair from a mattress, or a long hair of a woman, trod upon on the floor by the naked foot, or accidentally coiled up in the shoe, will, and often does, insinuate itself beneath the skin, and with little if any discomfort worm itself into the tissues for a considerable portion of its length. This is an occurrence repeatedly met with by "pedicures" or corn doctors, and hairs removed under these circumstances are frequently found among their trophies of nails and corns. On one occasion the late Professor Jackson exhibited to the Boston Society for Medical Improvement a bristle, extracted by Dr. John Homans from a foot, into which it had penetrated, unconsciously to the patient, one and a third inches. Hair-cutters are continually in trouble from the short hairs which penetrate the skin of their fingers and hands.

In view of these several facts there is no occasion for surprise that body hairs, broken off by friction or decay in a pilous region which entangles and prevents them from falling, should felt and mat together when they have lodged and accumulated in a depression favorably situated for their reception and retention, and subject to so much motion in walking and sitting as the one to which attention has been directed. Neither is it strange that they should, in course of time, excoriate the surface, softened by continuous perspiration, and penetrate or even perforate the integument; nor that, finally, by the inflammation and suppuration provoked, they should become a subcutaneous foreign body, the original dimple in the skin degenerating into the fistulous orifice of a more or less extended excavation in the cellular tissue, for which the possessor is compelled to seek surgical advice.

For the development of this rather singular lesion,

¹ Read before the Boston Society for Medical Improvement, November 8, 1880.

to which, for the sake of designation, I venture to give the name of pilo-nidal (*pilus*, a hair, *nidus*, a nest) sinus, the following elements are necessary:—

- (1.) The presence of a congenital coccygeal dimple.
- (2.) Abundant pilous development; hence, adult age, and almost of necessity the male sex.
- (3.) Insufficient attention to cleanliness; consequently its subjects, as a rule, must be persons of the lower class, and the affection one met with in hospital, or dispensary, rather than private practice.

THE TELEPHONE AND MICROPHONE IN AUSCULTATION.¹

BY C. J. BLAKE, M. D.

IT is too soon to have forgotten the enthusiasm which greeted the first publication of the electrical transmission of articulate sounds as made possible by the invention of the telephone, and the interest which was awakened in the medical profession in anticipation of its value in auscultation, and especially for the purposes of clinical demonstration,—expectations which were still further encouraged at a later day by the results of experiments made almost simultaneously by Mr. Berliner, of Boston, and Prof. Eli W. Blake, of Brown University, in this country, and Professor Hughes, in England, and published to the world by the latter in the various forms in which the discovery was demonstrable, as the microphone.

It is now more than four years since the introduction of the telephone, and more than two years since the appreciation of the full value of the "broken circuit" in connection with the telephone for sound transmission; in addition to the various forms of "transmitters" which are used on telephone lines, and which are in fact microphones, differing only in the mechanical devices for reception of the sound waves and adjustment of the contact surfaces, several forms of microphone have been constructed especially for purposes of auscultation, but none have as yet, even in a slight degree, answered this purpose. Setting careful investigation of their capabilities aside, this is sufficiently evidenced by the fact that none of these instruments have come into general use.

That, with numerous experimenters in the field, nothing in this line of research has been satisfactorily, practically accomplished awakens the question by those who await results as to why it has not been done, and it is an endeavor to answer this question which forms the basis of this paper, in which I shall have to apologize for partially retelling a twice-told tale in explanation of experiments bearing upon this subject made at different times during the past four years, at first with the hope of devising an auscultation telephone and microphone, and finally for the purpose of determining the reasons for the want of success in this attempt.

Having failed at one end, it was necessary to begin afresh at the other; this I am inclined to think has been the experience of other investigators of this subject, and as achievement is so often, finally, the result of the study of apparent impossibilities, it is to be hoped that a practically useful auscultation microphone may yet be devised. When the discoveries of the tel-

ephone and microphone were first announced, some very enthusiastic gentlemen went so far as to predict that telephonic consultations would be held, and that eminent special practitioners, who "listened to the heart beats of a nation," as a matter of business, would each settle themselves down in the centre of a web of wires and auscult at indefinite distances from the patients; the general argument being that an instrument which could make audible the foot-fall of a fly or the rustling of a camel's-hair pencil could certainly transmit at their full value the sounds from within the chest cavity which are so loudly heard in the stethoscope. But little of that knowledge of the practical working of the telephone over lines in use for purposes of ordinary communication, which came with the general introduction of the instrument, was necessary to prove the baselessness of this scheme; the very delicacy of the telephone in its susceptibility to interrupted currents and its almost fatal propensity—if such an expression may be used—to pick up sounds that did not belong to it were enough to show that it could not be used for so delicate a purpose as auscultation over any circuit of sufficient length to expose it to the influence of other electric currents. The first experiments, begun in 1877, were therefore made over a private wire, extending a distance of about eight hundred feet from one house to another, overhead, isolated as far as possible from other wires, the nearest overhead wire being six feet distant, but having a ground connection; the telephones used were the ordinary hard-rubber case hand telephones, Bell. The telephone was placed upon the bared surface of the chest, the mouth-piece of the telephone being pressed upon the surface, the auscultant listening at the second telephone at the other end of the line. The experiment was several times repeated with the telephone upon different portions of the chest, and with varying degrees of pressure; with exception, in one instance only, of the suspicion of a barely perceptible "thud," no sound which could be referred to the heart as its source was heard, although with the telephone in this position the voice and words of the experimenter could be heard by the auscultant.

There could also be plainly heard, in consequence of the ground connection, the snapping and cracking noises indicative of earth currents, the clicking of the Morse instruments, and the sound of a "fast speed transmitter" on the Western Union lines running along the Providence Railroad, and the ticking of the clock connected with the Observatory in Cambridge. It was very plain, therefore, that even if the heart sounds could be transmitted they would be drowned by extraneous noises, and the experiment was repeated by making the auscultation in the same room with the patient, the two telephones being connected by the short flexible wires, about three feet long, in common use. Even under these favorable circumstances no sound originating in the chest cavity could be heard.

Disks of postal-card paper, having small disks of iron in the centre, were substituted for the metal disks of both telephones, but with no better results, and the experiments with the telephone alone were abandoned.

The introduction of the microphone awakened new interest in the possibilities of auscultation, and a series of experiments was instituted with various forms of this instrument, the Bell telephone being used as a receiver.

Guided by former experience, a short line without ground connections was always used, and the micro-

¹ Read before the Boston Society for Medical Improvement, November 8, 1880.

phone was placed either directly upon the chest or upon a small box of proportions suitable to its action as a resonator for very low tones. In no instance were sounds heard in the telephone which could be referred to the heart or lungs as their source, but there could be distinctly heard rubbing and rustling noises resulting from the contact of the microphone apparatus with the surface of the skin and the small hairs upon it; and when the microphone was held in the hand, a short distance above the surface of the chest, noises could be heard which could be referred only to the disturbance of the opposing microphonic surfaces in consequence of the slight involuntary movements of the hand. Auscultation of the tracheal respiration was also attempted, with the same results. Of the various forms of microphone used in these experiments one was the transmitter invented by Mr. Francis Blake and used by the National Bell Telephone Company; another a microphone having a curved membrane, modeled upon the human membrana tympani; and a third a common form of microphone, but arranged with an adjustment which seemed to fit it particularly for the transmission of low tones. In order to test the capacity of the latter instrument in this respect, a resonator was tuned as nearly as possible to the pitch of the first beat of the heart (in this case a tone of about 170 v. s.) and placed upon the microphone. On blowing into the resonator forcibly, and thereby giving a tone much louder than that of the heart, there could be heard in the telephone a rushing sound of comparatively high pitch, but no fundamental tone of the resonator.

A large tuning-fork of the same pitch, set in vibration and held over the microphone, or placed upon the table at a short distance from it, was distinctly heard.

It seemed, therefore, that the microphone would not transmit audibly tones as low in pitch as those of the heart beats unless they were of considerable intensity; in other words, the volume of sound from the heart would need to be greatly increased, or its pitch considerably raised, in order to make it audible by microphonic auscultation with any present apparatus. The susceptibility of the microphone, moreover, to movements causing slight disturbances of its contact surfaces and the correspondingly loud noises induced in the telephone present a very serious difficulty in the way of auscultation.

In other words, for successful auscultation a microphone must be constructed which will respond only to very low tones of slight intensity, the contact surfaces of which shall not be subject to slight mechanical disturbance, and the adjustment of which shall be fairly permanent. In view of the work in electrical sound transmission during the past four years, no one would be so rash as to assert that these conditions cannot be fulfilled.

The reasons for the failure in auscultation as above stated are:—

(1.) In the telephones, the very considerable loss of power in sound transmission. In a series of experiments made for another purpose¹ in 1878 it was found that in response to a tone of 448 v. s. the centre of the disk of the transmitting telephone, without the magnet, moved through a space of 0.2625 millimetre, while the disk of the receiving telephone made a corresponding movement of only 0.0135 millimetre, a loss of motion of 92.9 per cent. between the two telephone

disks. With so great a loss by telephonic transmission in a tone of considerable intensity, it is claimed that the proportion of so weak and dull a sound as that of the heart, its overtones damped by transmission through soft tissues, given forth by the receiving telephone, would be inaudible to the human ear.

(2.) While the telephone creates its own current of electricity, a certain proportion of the working force which moves the disk of the transmitting instrument being expended in this operation, the microphone takes a current already provided by a battery, and merely varies the amount of the current passing from one to the other of its opposing contact surfaces. The whole of the motive force, therefore, generally speaking, is expended in varying the resistance. With this great saving the instrument is much more susceptible to very slight sounds, but it is also fatally susceptible to the influence of very slight mechanical movements which vary the relations of the contact surfaces to each other, thereby varying the amount of current passing, and producing corresponding sounds in the telephone. These sounds are usually very loud and sharp, and interfere materially with the hearing as well as with the transmission of regular musical tones. It may be briefly put that for the delicate purpose in question the telephone transmits too little, and the microphone, in any of its present forms, transmits too much.

Several auscultation microphones and sphygmophones have been constructed in France and Germany. I have had no opportunity to experiment with them, but from the details of their construction they do not differ essentially from those used in these experiments, and I should judge them to be open to the same objections.

THE EARLIEST ENGLISH AND AMERICAN MEDICAL ACTS.

BY EDWARD MUSSEY HARTWELL,
Fellow of the Johns Hopkins University.

THINKING that it may be of interest to compare the acts cited in the educational number of the JOURNAL, in an article on the Regulation of the Practice of Medicine in the United States, with the earliest English and American medical acts, I subjoin transcripts of the latter.

In the Rolls of Parliament for the ninth year of Henry V. (1421) the following Petition of the Physicians is found, being No. 1 for that year:—

"Hey and most myghty Prince, noble and worthy Lordes Spirituelx and Temporelx, and worshipfull Coes [commons], for so moche as a man hath thre things to governe, that is to say, Soule, Body, and wordly Goudes, the whiche ought and shulde be principally reweled by thre Sciences, that ben Divinite, Fisyk, and Lawe, the Soule by Divinite, the Body by Fisyk, wordly Goudes by Lawe, and these connynges sholde be used and practised principally by the most connyng men in the same Sciences, and most approved in cases necessities to encrease of Vertu, long Lyf, and Goudes of fortune, to the worship of God, and comyn pyft. But, worthy Sovaines, as hit is knowne to youre hey discrecion, many unconnyng an unapproved in the forsayd Science practiseth, and specially in Fisyk, so that in this Roialme is evy man, be he nev' so lewed, takyng upon hym practyse, y suffred to use hit, to grete harme and slaughtre of many men: Where if no man

¹ British Society of Telegraph Engineers, London. Sound and the Telephone. C. J. Blake.

practised theryn but al only connyng men and approved sufficently y lerned in art, filosofye, and fisyk, as hit is kept in other londes and roialms, ther shulde many man that dyeth, for defaute of help, lyve, and no man perysh by unconnyng. Wherefore pleseth to youre excellent Wysdomes, that ought aft' youre soule, have mo entendance to your body, for the causes above sayd, to ordeine and make in Statuit, ppetually to be straitly y used and kept, that no man, of no man' estate, degre, or condicion, practyse in Fisyk, from this Tyme forward, bot he have long tyme y used the Scoles of Fisyk withynne som Univsitee, and be graduated in the same; that is to sey, but he be Bachelor or Doctour of Fisyk, havynge lres testimonyalx sufficantz of on of those degrees of the Univsite in the whiche he toke his degree yn; undur payne of long emprisonement, and paynge XL li, to the Kyng; and that no Woman use the practyse of Fisyk undre the same payne: And that the Sherrefe of the Shire make inquisition in thaire tornes, if ther be eny that forfaiteth ayens this statuit, under a payne resonable. and theme that haz putte this Statuit in execucion without any favour, und' the same payne. Also, lest that thay the whiche ben able to practyse in Fisyk ben excluded fro practysing, the whiche be nought graduated, Plesith to youre hey prudence, to send Warrant to all the Sherrefs of Engeland, that evy practyso' in Fisyk nought gradeuated in the same science that wile practyse forth be withynne on of the Univsites of this lond by a cteine day that they that ben able and approved, aft' trewe and streyte examinacion, be receyved to theyr degree, and they that be nought able, to cese fro the practyse in to the tyme that they be able and approved, or never more entremette therof; and that therto also be iset a payne convenient."

In response to the above petition the Parliament at Westminster passed May 2, 1421, the first of the English medical acts, which in its "law French" original reads:—

"11. Item, pur ouster meschieves & perils q longement ont continuez dedeinz le Roialme entre les gents, parmy ceux q'ont usez l'arts & le praktik de Fisik & Surgerie, pretendantz soi bien sufficeament apris de mesmes les arts, ou de verite n'ont pas estez; a grande deceite a le poeple. Si est ordeinez & assentuz en ceste Parlement, q les Seignrs du Conseil du Roi pur le temps esteantz aient, poair p auctorite de mesme le Parlement, de faire & mettre tiele ordinance & punissement envers ceux persones q desore en avant vorront eutremetter, & user le praktik des ditz arts, & ne sont my hables ne approuvez en ycelles, come appent as mesmes les arts; C'est assavoir, ceux de Fisik en les Universitees, & les Surgeons entre les Mestres de cell arte. Et ceo come semblera as ditz Seignrs le pluis covenable & necessarie en le cas selonc lour bon advis & discretions, pur la seurete de le poeple." I cannot find that the act has ever been printed in English. The following may serve as a free translation of it:—

"11. Item, in order to remove mischiefs and perils which have long existed in the Realm among the people, on the part of those who have employed the art and practice of Physic and Surgery, pretending that they are sufficiently learned in the said arts, when in truth they are not; to the great deception of the people. Therefore it is ordained and decreed in this Parliament, that the Lords of the King's Council for the time being have power, by the authority of the said

Parliament, to make and provide such ordinance and penalty against those persons who shall hereafter undertake and employ the practice of the said arts, and are not at all learned or approved in the same, as pertains to these arts; that is to say those [who are not] of Physic in the Universities, and Surgeons among the Masters of that art. And this as it shall seem fit and necessary to the said Lords in the case, according to their good judgment and opinion, for the safety of the people."

On page 49 of his Contributions to the Annals of Medical Progress, Dr. J. M. Toner, of Washington, makes this statement: "The earliest law enacted in any of the colonies relating to medical men that I have seen is the act passed by the colony of Virginia in 1639." On page 50 he quotes the following Virginia act of 1645, amendatory of the act of 1639:—

"Whereas by the ninth act of assembly, held the 21st of October, 1639, consideration being had and taken of the immoderate and excessive rates and prices exacted by practitioners in physick and chirurgery, and the complaints made to the then assembly of the bad consequence thereof, it so happening through the said intollerable exactions that the hearts of divers masters were hardened rather to suffer their servants to perish for want of fit means and applications than by seeking relief to fall into the hands of griping and avaricious men; it be apprehended by such masters, who were more swayed by politick respects than Xian [Christian] duty or charity, that it was the more gainfull and saving way to stand to the hazard of their servants than to entertain the certain charge of a physitian or chirurgeon, whose demands for the most parte exceed the purchase of the patient; it was therefore enacted for the better redress of the like abuses thereafter, untill some fitter course should be advised on, for the regulating physitians and chirurgeons within the colony, that it should be lawful and free for any person or persons in such cases where they should conceive the accot of the physitian or chirurgeon to be unreasonable, either for his pains or for his druggs or medicines, to arrest the said physitian or chirurgeon either to the quarter-court or county-court where they inhabit, where the said physitian should declare upon oath the true value, worth, and quantity of his druggs and medicines administered to or for the use of the plt., (patient) whereupon the court where the matter was tryed was to adjudge, and allow to the said physitian or chirurgeon such satisfaction and reward as they in their discretions should think fitt.

"And it was further ordered, that when it should be sufficiently proved in any of the said courts that a physitian or chirurgeon had neglected his patient, or that he had refused, being thereunto required, his helpe or assistance to any person or persons in sickness or extremity, that the said physitian or chirurgeon should be censured by the said court for such his neglect or refusal, which said act and every clause therein mentioned and repeated, this present grand assembly to all intents and purposes doth revive, ratifie, allow, and confirme, with this only exception that the plts. (or patients) shall have their remedy at the county-courts respectively, unless in case of appeal.

"Enacted Grand Assembly of Virginia, session of 1645-46."

The great and general court of Massachusetts for 1879-80 seems to be quite behind the times in its regard for "the known approved Rules of Art in each Mystery and occupation," when judged in the light of

the following law enacted by the Colony of Massachusetts Bay in 1649:—

"Forasmuch as the law of God allows no man to impair the life or limbs of any person, but in a judicial way: It is therefore ordered, That no person or persons whatsoever employed at any time about the bodies of men, women, or children for preservation of life or health as chirurgions, midwives, physitions, or others, presume to exercise or put forth any act contrary to the known approved Rules of Art in each Mystery and occupation, nor exercise any force, violence, or cruelty, upon or towards the body of any, whether young or old, (no, not in the most difficult and desperate cases,) without the advice and consent of such as are skillfull in the same art, (if such may be had,) or at least of some of the wisest and gravest then present, and consent of the patient or patients if they be *mentis compotes*, much less contrary to such advice and consent, upon such severe punishment as the nature of the fact may deserve; which law, nevertheless, is not intended to discourage any from all lawfull use of their skill but rather to incourage and direct them in the right use thereof, and inhibit and restraine the presumptuous arrogancy of such as through presidence of their own skill, or any other sinister respects, dare boldly attempt to exercise any violence upon or towards the bodies of young or old, one or other, to the prejudice or hazard of life or limbe of man, woman, or child."

Dr. S. E. Chaillé has shown in a striking way, in the *New Orleans Medical and Surgical Journal* for May, 1874, page 828, that popular indifference, not to say popular ignorance, is the main difficulty in the way of regulating the practice of medicine in the United States. He says:—

"Many of the States have tried the experiment of enacting laws so excellent that nothing more was needed to improve the medical profession except their execution. In 1851 eleven States had had such laws and had repealed them; four then had them, but subsequently repealed them. Among these four was the State of Louisiana, as to which it was published abroad 'No State in the Union is better protected against impositions of all kinds than Louisiana.' But distance lent enchantment to the view, for the facts were as follows: Louisiana did enact most excellent laws as early as 1808; wisely amended them in 1816, 1817, and 1840; and after forty-four years of experiment repealed them in 1852, without encountering the opposition of any. For such was the execution of these laws that the State was infested with quacks and patent medicines, and whilst the laws imposed taxes and other burdens on the good their penalties against the bad could not be enforced."

—"Professor Potain, alluding to a case at the Necker in which vomiting was a prominent symptom," writes the *Medical Times and Gazette*, "observed, 'There is in general much more vomiting in an affection of the brain or in disease of the kidney than in affections of the stomach, excepting cancer which has reached a certain stage. So that when you are in the presence of a patient who is constantly vomiting alimentary matters, without the digestive organs manifesting any well-marked sign of disease, your attention should always be immediately turned to the encephalon and to the organs for the secretion of urine.'"

CASE OF URETHRAL STRICTURE TREATED BY OTIS'S METHOD.¹

BY C. F. BANCROFT, M. D., OF BOSTON.

THE following case seems interesting, as it involved many of the extreme misfortunes attending gleet, and was as obstinate in yielding to the regular treatment of that trouble as a case could be. I do not offer the case as proving or disproving anything pertaining to the Otis method. Every case treated in this way is at present of interest, and I merely add mine to the list.

Mr. D., age forty-five, contracted gonorrhœa in 1854 for the first time. Was treated with injections and copaiba; was apparently cured at the time, but some months afterward a gleet appeared. For the past twenty years this discharge has been intermittent. The least sexual or alcoholic excess has always caused its return. In the summer of 1879, after a fresh accession of the discharge, he noticed marked diminution in the size of his stream, also irregularity in its course. By November he was annoyed by a constant desire to micturate: at night he was obliged to arise from ten to twenty times. Finally, his distress was so great that he applied for medical aid. I examined his urethra, and found three strictures,—one in the fixed portion, two in the pendant urethra. No. 13 French bougie was the largest that could be passed. The two anterior strictures were about one and two inches respectively from the meatus. Gradual dilatation was at once begun; the two anterior strictures were very sensitive, and progress was very slow. I gradually increased the bougies to No. 25 French. By this time the difficulty in passing water had nearly disappeared, but still the discharge persisted, and was very annoying. Moreover, on desisting from passing the bougie the strictures at once recontracted, and in addition to his discharge he had a recurrence of his old cystitic symptoms. An ointment composed of sulphate of copper and wax was used, as recommended by Ogilvie Will in his little monograph. This I passed into the urethra on a small sound, and allowed it to remain *in situ* for a while, thus bringing the astringent directly in contact with the supposed diseased portion. This had no effect whatever on either discharge or stricture. All this while a No. 25 French bougie was being passed periodically. I now advised internal urethrotomy as the only means of reaching all his trouble. He at once assented, and I endeavored to incise the stricture with Maisonneuve's urethrotome, but the stricture had already been dilated so widely that the largest blade of the Maisonneuve passed through the constriction without cutting it. As there seemed to be nothing more to do, I was obliged to advise the patient to wait a while, simply passing the No. 25 French bougie. This he did faithfully himself. Gradually the discharge disappeared, and the patient and myself were congratulating ourselves on a recovery, when the cystitis reappeared. So frequent and painful were the calls to micturition, that he was obliged to leave off work. I examined his urine, and found it ammoniacal, loaded with pus, and presenting all the features of a case of severe chronic cystitis. The patient's condition was at this time worse than at any time during the treatment. I at once put him to bed, regulated his diet, and washed out his bladder regularly. This only slightly relieved his symptoms; on endeavoring to walk they at once returned. At this

¹ Read before the Suffolk District Medical Society, October 9, 1880.

time a No. 25 French bougie could be passed, and the stream was of large size. It was therefore perfectly evident that the stricture was of large calibre, and that just enough obstruction to the flow of urine was caused by it to set up irritation in the muscular apparatus of the bladder and urethra, and that this in turn induced inflammation of the mucous surface of the organ. As Berkeley Hill says, "if the balance between the natural expulsive force of the bladder and the friction along the urethra is disturbed the bladder is irritated."

Otis's dilating urethrotomy seemed the only method left by which we could overcome the stricture and relieve the bladder. Accordingly on the 1st of May I etherized and operated upon the patient. Dr. Geo. W. Gay kindly assisted me. The flaccid penis measured three inches in circumference, and, according to Otis, the urethra should have a normal calibre equivalent to a No. 30 French bougie. The urethrotome used was one of the earlier designs, and not as convenient as the later variety, in which the blade slides in the groove after the instrument itself is dilated. The urethrotome was introduced through the deep stricture, dilated and withdrawn, closed and withdrawn to the outer strictures, then dilated and withdrawn through them. The meatus was also incised. A No. 30 French steel sound easily passed into the bladder. There was but little hæmorrhage. That night he had a tendency to chill, and some pain which was relieved by ten grains of quinine and a morphia and belladonna suppository.

May 2d. Had some local soreness, but otherwise comfortable.

May 3d. Had no spasm after urinating; did not wish to pass water oftener than natural, and said he felt better than for a long time. No. 30 French bougie introduced without pain.

May 5th. Had a great deal of pain in perinæum and penis. Penis red and swollen, and marked induration at peno-scrotal angle.

May 7th. Swelling and pain had diminished, and a No. 30 French sound was introduced. All the requirements of Otis's operation had thus been met up to this time. The sound had been passed until there was no blood or discharge upon its withdrawal. According to Otis, the stricture was now radically cured. The normal calibre of the urethra was restored, and it was physiologically impossible for contraction to recur.

May 9th. Patient again experienced great pain in perinæum and penis. He was very restless; had a temperature of 102° F., preceded by a slight chill. Five grains of quinine were given, and three suppositories of morphia, each containing one fourth of a grain, were administered before he experienced relief.

May 10th. He felt much easier. Urine rather thick, and contained pus.

May 12th. Patient decidedly better. From this time he began to gain. His urine slowly cleared up, and by the 1st of July he resumed his work. Since his last attack of pain a No. 28 French bougie passed easily, but Nos. 29 and 30 entered with so much difficulty that I did not endeavor to pass them. Up to the present time the patient has remained very well. There is no discharge from urethra, nor is there cystitis. He does his work daily, and has gained in flesh, strength, and color.

To a certain extent, therefore, the operation was a decided success; it enabled him to work, and certainly was the means of his recovering his health, which had been greatly impaired by the prolonged urethral dis-

charge and the accompanying cystitis. I cannot say, however, that the cure is *radical*. On the 26th of September last I examined him with one of Otis's steel bulbs, size No. 30, French. This entered the meatus, and passed down the urethra, without obstruction, until it reached a point corresponding to the junction of the scrotum and penis. Here it met with marked resistance, and its passage called forth pain; it passed through a distinct band of stricture, and then met with no further obstruction. At the point of resistance can be felt a ring of inflammatory effusion. During an erection the penis bends downward slightly.

The present case seems to show, first, that the operation is not always followed by a smooth and uneventful recovery; secondly, that the cure is not always a radical one. The case also suggests the query whether it is advisable or justifiable to perform dilating urethrotomy a second time, with the view of entirely recovering the stricture which still exists. It has been said that the dangers and inconveniences of the operation are so slight, and the results so certain and positive, that it is neglect of duty on the part of the surgeon if he does not operate. Considering that at present the patient has no trouble, and that the experience of many surgeons shows that a radical cure does not invariably follow, it would seem the part of better judgment to delay and still consider the question of radical cure a mooted one.

RECENT PROGRESS IN THE TREATMENT OF MENTAL DISEASES.¹

BY THEO. W. FISHER, M. D. HARY.

LUNACY REFORM.

A NATIONAL Association for the Protection of the Insane and the Prevention of Insanity was formed at Cleveland, Ohio, July 1, 1880. A constitution setting forth the methods of the society was adopted, which proposes to encourage clinical and pathological observations by the medical profession generally; to enlighten the public as to the nature of insanity, the importance of early treatment, and improved methods of management at home and abroad; to recommend an enlightened state policy; to stimulate legislation by holding public meetings so as to secure efficient supervision of the insane; to perfect the laws relating to the treatment of the insane and their rights while in the asylum; and to allay public distrust by placing insane asylums on the same footing as other hospitals, in the matter of freer communication with the outer world and of a consulting medical staff of general practitioners. An address was read by Dr. George M. Beard, of New York, explaining the necessity of such an association. He thinks the future growth of insanity, due to our complex civilization, is destined to become enormous. At least one out of three hundred will be insane in the near future. Insanity he considers a part of the cost of liberty and self-government. He claims that the public need enlightenment on this subject, and have a vital interest in it far greater than that of the asylums. Dr. J. C. Shaw, of the King's County Insane Asylum, New York, read a paper on the Practicability and Value of Non-Restraint in treating the Insane, showing what had been done in his own asylum since he took charge of it. Its pre-

¹ Concluded from page 400.

vious condition he represented as disgraceful. The amount of restraint had been excessive, but it had been entirely abolished, and seclusion substituted in rare cases. Work he had found a useful adjuvant in making the change.

THE RIGHT OF THE INSANE TO LIBERTY

is the title of a paper read before the National Conference of Charities and Corrections at Cleveland,¹ by Dr. E. C. Seguin. He argues in favor of shorter periods of detention for the convalescent insane in our asylums, for greater liberty while there, and for the boarding out of suitable cases in the families of farmers, under supervision of the local physician. He advocates for a large number of asylum inmates the abandonment of bars and locks and all restraining apparatus, and nominally remunerative employment, with amusements suited to their capacity for enjoyment. He thinks superintendents are not to be wholly trusted in the matter of early discharge, change of asylum, or amount of liberty allowed. He would have acute cases of mania or melancholia put in hospitals at once, but thinks the confinement should be made as easy as possible, and all restraint applied by express direction of the medical officer alone. He quotes Dr. Maudsley, Dr. Blandford, and Dr. S. G. Howe in support of his various opinions. Dr. Maudsley in his second edition modifies considerably the more radical expressions of the first edition, from which Dr. Seguin quotes. The following remarks indicate the general views of Lord Shaftesbury, for many years chairman of the British Lunacy Commission, on the present tendency of lunacy reform.

At the last annual meeting of the British Medico-Psychological Society Lord Shaftesbury attended by invitation. After contrasting the present improved condition of both public and private asylums with their former state, he congratulated the members on the conscientious manner in which medical practitioners had discharged the duties imposed upon them by the lunacy acts, as proved by the evidence adduced before the late parliamentary committee, which showed that 185,000 certificates had been issued and persons shut up on them, and though the committee sat for six months they did not discover a single instance in which injustice had been done. The present tendency, and one to be guarded against in the public interest, was to let out everybody who was shut up, and henceforward to shut up nobody at all. He hoped no further unnecessary impediments would be thrown in the way of early treatment, on account of a mistaken delicacy in regard to the "liberty of the subject."²

ABOLITION OF LICENSED HOUSES.

Dr. Bucknill in a recent address³ presents his reasons for advocating the abolition of private asylums. He draws a distinction between the physician and the proprietor of such asylums, though they may be the same person. The former is entitled to professional consideration, but the latter is not. There are ninety-eight private asylums in England and Wales, and of these one half are licensed to medical men. The pecuniary bias of these latter is, he thinks, matter for public discussion. A strong inducement to keep patients after apparent recovery no doubt exists, and may be

acted on to the prejudice of the patient. The motives of relatives are said to be, apart from separation from home and safe guarding, secrecy and perhaps the hope of cure. He thinks we have no assurance that the secrecy will be exercised when right, and not attempted when wrong. He believes no change will be satisfactory which will not abolish these asylums entirely. Every lunatic confined against his will should be sent to a public asylum, provided by the state, and managed by a board of governors. Voluntary patients might still be cared for in private, and the boarding out of insane patients in groups of two or three should be encouraged by law.

This paper was read January 21, 1880, before the South London District Medical Society. The discussion brought out many members in opposition. Dr. Newington presented statistics showing that prolonged detention was not the rule in private asylums, and claimed for their proprietors as high a sense of honor as prevailed in the profession at large.

Dr. Lush, the president of the British Medico-Psychological Society, in his annual address, opposed the hasty abolition of licensed houses or private asylums for the insane as unnecessary and harmful. A complex state of society makes variety in accommodation desirable. The allegations against them in 1877 were unsustained, and the parliamentary committee's report favorable to their continuance. This attack on licensed houses by the so-called lunatic's friend party Dr. Lush regards as mischievous in the extreme. The constant reiteration of such radical views reacts disadvantageously on jurists, on the press, and on medical men. Doctors refuse to take the responsibility of certifying in the clearest cases, the newspapers publish sensational statements devoid of foundation, and magistrates and judges pit the "liberty of the subject" against the common weal, rejecting the plea of insanity where only obtuseness or prejudice could fail to detect it. Mr. Wilkes stated before the committee that in one year sixteen hundred suicides occurred, most of which were preventable. Coroners and the press never point out the obvious moral of the suicides, murders, and felonious assaults, many of them by recently discharged lunatics, or persons who have for some time shown signs of insanity. Projects for boarding out of paupers and the abolition of licensed houses are crudely put forward, in the haste for cheap philanthropy. If insanity is on the increase with the restrictions now in vogue, what can prevent still greater increase if no check is placed on the reproduction of the insane? Not the diminution of insanity, but the license of the lunatic, is inscribed on the revolutionary banner, and its success would be as dangerous to the state as that of any other misguided fanaticism. A true solution of the problem of preventing the growth of insanity is to be sought in increased family responsibility; in educating the popular belief in the gravity of the disease; in further state interference where possible; and in efforts to make the lot of the insane, under detention, as little irksome as possible.

The following newspaper item at the date of writing is only one of hundreds of similar accounts of tragedies annually occurring in our country. It illustrates the remarks of Dr. Lush and Mr. Wilkes, and shows the insensitiveness of the public by the fact that a similar horrible transaction had occurred four years before in the same town:—

"A shocking affair occurred in the town of Sheffield,

¹ Archives of Medicine, August, 1880.

² Times and Gazette, August 7, 1880.

³ British Medical Journal, February 7, 1880.

Vt., yesterday forenoon. Byron Blake, an insane man, twenty-six years old, murdered his mother and sister and step-father with a knife, and then hanged himself. The murderer had, some six years ago, a spinal difficulty, which occasioned the loss of his reason. He was confined in an asylum two years, and when he returned home he was considered safe. The whole town is in excitement. There has been no such excitement since four years ago, when Wilder killed his father and mother, and then himself, two miles south of Sheffield."

The following resolution was passed at a meeting of the Norfolk District Medical Society, September 21, 1880: "*Resolved*, That in the opinion of this District Society the present condition of the treatment of the insane prior to their legal commitment to an insane asylum deserves a very searching investigation, and this society would therefore report the subject as worthy the consideration of the Massachusetts Medical Society, either in its corporate capacity, or by some competent committee to be appointed by its council."

This resolution opens a wide field of investigation, including the treatment of the insane at home, in almshouses and general hospitals, by the police and by medical practitioners, regular and irregular. The manifestly insane or delirious person, dangerous to himself or others, may be restrained for a reasonable time until he recovers or can be legally committed to an asylum for the insane by any interested party, and the act will be justified at common law. This is the judgment of English courts, and it would no doubt be sustained by our own. It is this alone that justifies our general hospitals in applying mechanical restraint to insane or delirious patients, as they all do, or relatives and physicians and nurses in controlling the same class of patients at home. When family restraint becomes inadequate, it is sometimes necessary in an emergency to call on the police for protection. In Boston this aid will be rendered on the strength of present violence or a physician's certificate. Our general hospitals have usually refused to admit cases of insanity or delirium tremens. At my suggestion mild or incipient cases of insanity were received for several years at the City Hospital, and are still received in some cases. Delirium tremens is only treated at the city or state almshouses, and cases generally remain a few hours in the hands of the police before reaching their destination. Insane persons escaping into the streets, or having no lodging place, are also subjected to a brief confinement in a padded cell or an ordinary one in the city prison. The accommodations here are for security rather than treatment, and might be improved with more space, such as a new court-house is expected to afford. No insane person, however, need pass through the hands of the police if he has friends willing to control him for a short time, since cases of emergency occurring on Sundays or holidays have for several years been admitted on the certificate of two physicians at the Boston Lunatic Hospital. This is done on the strength of an opinion from the city solicitor that such detention, until legal commitment is possible, is justifiable. The objects of inquiry under the above resolution are worthy attention, and the committee should have the coöperation of physicians and all public officers concerned throughout the State. Especially should this committee consider the position of insane drunkards under existing laws.

CIRCLES OF MENTAL DISORDER.

Dr. J. Crichton Browne, in the opening address before the psychological section of the British Medical Association,¹ made some interesting observations on modern nervous and mental disorders. Outside the insane circle of ninety-four thousand registered lunatics and idiots of Great Britain is a still larger number of eccentric, half-mad, crack-brained, or imbecile persons, who constitute what may be called the crazy circle. No census of this circle has ever been attempted, but its number, Dr. Browne thinks, is double that of the insane circle. The large number of crazy documents in official pigeon-holes and the frequent appearance of the partially insane in our courts charged with fraud or violence attest this. Of the seventeen hundred annual suicides in England and Wales, according to evidence given at the inquests, at least three fourths are due to mental unsoundness, of which previous symptoms had been exhibited. Of patients whom physicians are called on to certify insane, very many have been so for a long time, and patients in our hospitals with physical diseases often suffer from unreported mental maladies. Still, outside of the crazy circle is the neurotic circle of sufferers from forms of nervous disease tending more or less strongly to insanity, such as epilepsy, paralysis, spinal diseases, hysteria, and chorea. The seventy thousand deaths annually from nervous diseases in England and Wales show how large this circle must be.

Between these circles a constant interchange is going on. A person who has been simply neurotic becomes insane and rushes into the inner circle. A lunatic partially recovers and steps into the crazy circle. The insane circle has been stretched by the changing definitions of insanity in modern times so as to include many in the crazy circle, and some believe that this alone accounts for the fact that the number of registered insane has doubled in the last twenty years. Dr. Browne doubts this explanation, and is inclined to agree with Dr. Beard that nervous diseases have greatly increased in frequency, thus becoming feeders to the great body of the insane. If, as Herbert Spencer says, "intelligence is the adjustment of the inner to the outer relations," the latter having become so numerous, complex, and heterogeneous, the process of adjustment must have become proportionately more difficult and hazardous.

Dr. Browne considers the bearing of education on this problem, and shows that, while intellectual exercise is conducive to strength of mind and is prophylactic against insanity, an ill-timed forcing of any particular process is hurtful in the extreme. The intellectual centres are, he thinks, developed successively and become receptive of formative influences at different times. If, therefore, education does not take advantage of this succession, it thwarts its own purposes. If the speech centres, for instance, are being trained when the hand centres are most receptive, mischief may result from forcing in one direction and neglect in the other. There are also two kinds of cerebral activity, — nutrient and functional, — and when one is at the maximum the other is at the minimum. The school-master and the psychologist should therefore take counsel together. Cerebral centres not properly exercised at the right time never fully develop, and once fully matured they do not waste or retrograde. Similar dis-

¹ British Medical Journal, August 14, 1880.

cretion should be used in training the sensory perceptions and the emotional and religious nature.

THE COLLAPSE OF SCIENTIFIC ATHEISM.

Dr. J. M. Winn closes a series of articles directed against materialism and its advocates by a paper entitled as above.¹ Dr. Winn argues rather excitedly, yet logically, against the omnipotence of atoms and physical forces, and dismisses bathybius with contempt. Spontaneous generation, he says, has been refuted by Tyndall himself, the high priest of materialism. Evolution, he thinks, is an unproven and almost unsupported hypothesis, daily losing its hold on the minds of the best thinkers, and contradicted by numerous unanswerable objections. He refutes Mr. Pengelly, F. R. S., who was selected to examine the contents of the Brixham cavern, and who stated that facts conclusively proved the existence of man in Devon during the pre-glacial period, by the evidence of Mr. Whiteley, who insists that the supposed flint implements found were merely flakes and rubble. The only real tool was taken from the soil above the cave; the charcoal bed contained no charcoal; slate was mistaken for flint, and flint for bone. The "whole hind leg of a cave bear" was of similar doubtful character.

Dr. Winn condemns physiological psychology as a pseudo-science which has proved an *ignis fatuus* to many promising young doctors. He denies that vital and mental energy are interchangeable with physical forces, and disputes the conclusions of Ferrier and his school with much vigor and some facts. He calls his system a new phrenology, and as baseless as the old. He finally quotes Dr. J. Hughlings Jackson as a convert to new and sounder views on this subject. Dr. Jackson says:² "In a scientific investigation of nervous diseases it is essential to keep distinct psychology and the anatomy and physiology of the nervous system. . . . I have been misled by not having seen the distinctness of physical (nervous) states and psychical states, in my earlier studies, and thus I feel bold to point out the evil results of the confusion of the two things." Dr. Winn says, "The modern cerebral physiologists have been guilty of a serious and culpable error in their attempt to explain mental phenomena by a hasty generalization from the very few facts that are known respecting the nature and properties of the ganglionic cells so extensively diffused throughout the cortical substance of the brain. The mind is an entity, a first principle, he believes, and it is as unphilosophical as it is inconceivable that matter should think."

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

NOVEMBER 8, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

PILO-NIDAL SINUS.

DR. R. M. HODGES presented for inspection a cast and read a paper on Pilo-Nidal Sinus, to be found in the preceding part of this number of the JOURNAL.

¹ Journal of Psychological Medicine and Mental Pathology, April, 1880.

² Medical Press, September 3, 1879.

DR. T. B. CURTIS remarked that he had seen a number of these cases at the Massachusetts General Hospital, but that he had never seen or heard of them anywhere else, and that they appeared to be a new subject in medical literature, as he had been unable, after careful search, to find them mentioned even in the reports of the large Paris hospitals.

DR. J. C. WARREN said that he had seen and treated a sinus in this location in a woman in good circumstances, and that although before it came into his hands it had been treated so much that no hair was found, yet that he had always supposed that it had originated from a cyst of this character, as it appeared to be similar to other fistulous tracks which he had operated on and found hairs several inches in length.

In answer to a question by Dr. White, DR. HODGES said that the dimple presented by the cast was of fair average depth, and that they were best seen in young babies, where they look proportionately deeper than in adults. He also said that the tendency of the nates to close together while the cast was being taken altered the appearances somewhat.

DR. WHITE asked if these fistulous tracks had been carefully dissected, to see whether it was necessary to refer their contents to anything outside of the skin, and whether they could not have originated in the integument itself.

DR. HODGES replied that no integument was to be seen; he also said that this same process occurred in the umbilicus.

DR. FITZ thought that the nature of the hairs would oppose the suggestion from Dr. White that these might have grown from the wall of the sinus. The skin of the dimple and that in its immediate vicinity was likely to produce lanugo hairs rather than the coarse variety found within the cavity.

DR. AYER said that he had seen a number of cases, and DR. EDES mentioned a case occurring in his practice.

DR. C. J. BLAKE then read a paper on the Telephone and Microphone in Auscultation, which will be found in another part of the JOURNAL.

DR. BOLLES inquired whether Dr. Blake had made any systematic attempt to measure — say, with the siren or some such instrument — the pitch of the heart sounds, and then to make a large or very thin disk of low tension that would respond readily to sound waves of the same velocity.

DR. BLAKE said that this had been tried.

In answer to questions by Dr. F. C. Shattuck and Dr. Hodges, Dr. Blake said that the laryngeal respiration and artificial sounds, resembling respiration and heart sounds, had been tried, and in answer to a question by Dr. Greenough he said that it was possible that the extraneous sounds drowned the heart and lung sounds.

PERICARDITIS.

DR. CUTLER presented for inspection the heart and pericardium from a patient who had been under Dr. Stedman's care at the City Hospital. The absolute dullness extended to the right of the sternum, and a trocar introduced after death in the fifth right interspace allowed fluid to run out of the pericardium, and did not wound the heart. A trocar was also introduced in the same locality, on the left side of the sternum, with similar results. Twelve ounces of fluid were found remaining in the pericardium and a pleuritic effusion on the left side.

DR. BOWDITCH questioned whether the man's life might not have been saved if he had been tapped before death, and said that he saw no reason why the pericardium should not be tapped as well as the pleura.

DR. C. E. STEDMAN said the specimen showed by Dr. Cutler was from a man aged thirty, who came into the City Hospital October 19th, drunk and delirious, having been drinking four days. The area of cardiac dullness extended one and one half inches outside nipple line to sternum, beginning at sixth rib; heart's action excessively irregular and tumultuous; liver dullness enlarged; great dyspnoea.

October 27th. Cardiac dullness increased; friction sound above left nipple; flatness over both bases behind; right back respiration and percussion normal to seventh rib; respiration fainter down to base; voice natural; left base bronchial voice; in front flatness in fifth right intercostal space.

October 28th. Patient climbed the fence at four P. M., and eloped.

November 2d. Returned moribund, and died in two hours.

DR. ROTCH spoke of the interesting combination of pleuritic and pericardial effusion in Dr. Stedman's case, and recalled Professor Kussmaul's case of pericardial effusion and pleuritic effusion on the right side, relieved by tapping in the fifth right interspace.¹

DR. ROBERT AMORY asked the opinion of the society in regard to the introduction of certain petroleum ointments in the Pharmacopœia, and presented for the inspection of the members a number of ointments, with their melting points marked on the boxes.

DR. GREENOUGH asked whether these melting points could be invariably reproduced.

DR. AMORY replied that this could almost be accomplished, but that vaseline varies very much.

DR. BOLLES believed that the true course for the Pharmacopœia was to treat those paraffine compounds which are useful for ointments and other medicinal purposes as commercial products, describing and defining them with suitable qualifications and restrictions as to their permanence, melting points, unirritating qualities, odor, and appearance, and to give them appropriate names. Then let the manufacturers produce them by whatever process they find to be most desirable, and let the apothecaries buy them of whichever dealers offer the best and cheapest articles. He had been, from their earliest introduction into medicine, greatly interested in these substances. He believed them to be one of the most valuable additions of the past ten years to our list of medicines, and that they were destined to supersede the animal fats, in all ointments and cerates. He thought it desirable that there should be two varieties of these articles, one with a melting point between 100° and 110° F., the other above 125° F., either for winter and summer use, respectively, or for admixture with different medicaments, some of which stiffen an ointment much more than others.

One of the difficulties of preparing the petroleum ointments, according to Dr. Bolles, was the liability of the paraffine proper to crystallize or separate from the softer constituents. This should be very carefully guarded against by the requirements of the Pharmacopœia, as it is a most serious fault.

— Dr. T. G. Thomas, of New York, is building a private hospital in that city.

¹ Deutsches Archiv für klinische Medicin, October 23, 1879.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

OCTOBER 9, 1880. The meeting was called to order by DR. HODGES at 7.45 P. M. Twenty-six members present.

DR. H. W. BROUGHTON reported a case of

PROBABLE HYPERÆMIA OF THE LIVER FROM MALARIAL INFECTION, WITH THE POSSIBLE PRESENCE OF EITHER CANCER OR HYPERTROPHIC CIRRHOSIS.

MR. C. H., age thirty-two, a government architect, born in Glasgow. Mother died of reputed cancer of stomach at forty years of age. Family history otherwise good. At age of three months patient had an attack of bronchitis. With this exception was remarkably well till seventeen, having great recuperative power. At thirteen he entered the English navy as a midshipman. At seventeen he had a profuse pulmonary hæmorrhage, unattended by cough. From this he quickly recovered, to be soon prostrated by intermittent fever, shortly after his arrival in the malarial districts of China. From this he made but a partial recovery, slight chills occurring at irregular intervals for three years, during which time he led a rough life; visiting many foreign ports, contracting gonorrhœa, buboes, and a specific sore, which seems to have been a chancroid, never having been succeeded by secondary symptoms. At nineteen he had pneumonia, affecting left side. At twenty the chills ceased for four years, during which time he drank immoderately of strong spirits. Otherwise he has always been a moderate drinker of lighter liquors. At twenty-four, in Halifax, he had a second attack of intermittent fever, lasting for a few weeks, but leaving these irregular chills for two years. In 1874, at the age of twenty-six, while in California, he was taken ill with some acute affection. A swelling, painful and tender, appearing at epigastrium, pronounced by physicians to be a "tumor." A few weeks later it was examined rather roughly, causing much pain, after which it gradually disappeared. From this he recovered, and was married in 1875. During the following winter the chills were frequent, sometimes three a week. They persisted for two years. In 1877 the fever stage was followed by more profuse sweating than usual, but the chills were not so noticeable. He then traveled in Europe for a year, being much benefited by the change. Two years ago the chills again returned, mild at first, increasing to marked severity. He was so reduced that he was confined to his bed much of the time. During the paroxysms of fever he was often slightly delirious, and at times they were followed by a sort of stupor. In January, 1879, it was thought that he would never recover. But he did, and was quite well until last December, when his old enemy again harassed him, and the chills have continued ever since. He has taken quinia with benefit. Fowler's solution was also taken for a few weeks. At times the paroxysms have occurred with some degree of periodicity, the last days of the week being the sick days; but usually they come without any warning and at irregular intervals.

Seven months ago, after a strain from heavy lifting, his left testicle suddenly enlarged without marked pain, and has remained so since, not increasing in size, but if anything decreasing.

Our purpose to-night is not so much to discuss the

nature and treatment of malarial infection, but more particularly to consider the change which may arise from such infection.

Patient is of medium height, somewhat stooping, rather anæmic and sallow. Tongue moist and pale. Pulse regular, 80 to the minute. Heart and lungs normal. Inspection of abdomen reveals slight fullness in hepatic region. Upon palpation a sense of resistance is felt at epigastrium and right hypochondrium. The edge of the liver is felt firm and rounded. Manipulation is not especially painful, except at epigastrium, where pressure discovers existence of several small, hard nodules, apparently in left lobe of liver. Percussion shows the liver to be moderately and uniformly enlarged. The spleen cannot be felt, although the area of splenic dullness is slightly increased, extending from eleventh rib to eighth intercostal space. The left testicle is found to be uniformly enlarged, four by two and a half inches; no nodules; epididymus not felt; not particularly tender.

Several examinations of the urine have not discovered anything abnormal. Whether albumen is temporarily secreted during a chill has not been determined, although its presence at such a time might be expected without indicating organic disease.

The examination of the blood, by Dr. Cutler, gives no evidence of increase of white corpuscles.

The temperature chart is characteristic of this condition. Before breakfast it is uniformly low, the introduction of food into the stomach and exercise soon bringing it to the normal point. During a paroxysm the temperature has risen to 102° F., when severe; when slight, temperature only rises to 99° F.

From the fact that other organs in our patient are apparently not involved, from the non-splenic enlargement, and from the normal urine, we may eliminate any disease with some probability of correctness. From the history, from the absence of fatty change elsewhere, from the absence of great anæmia, nervous depression, etc., it is improbable that fatty degeneration is the prominent cause of the present enlargement, although a certain amount of fatty infiltration may of course coexist with the present affection.

Lukæmia. The liver is here usually large, hard, and dense, but we have no enlarged spleen, and no symptoms of lukæmia elsewhere.

Simple hypertrophy is rare, and has been chiefly observed in lukæmia, and exceptionally in diabetes.

Cancer. Primary cancer of the liver is rare. Three fourths of the cases, according to Murchison, are secondary. There are two features in this case which make it possible that cancer is present: (1) the nodular feel at the epigastrium, and (2) the enlarged testicle. With regard to the testicle, it does not seem probable that the enlargement is due to cancer, for it has decreased rather than enlarged latterly. Secondary cancer affecting the testicle from the liver is rare. It would more naturally proceed from the testicle to the liver. The nodular feel at the epigastrium, with its accompanying tenderness, is to be regarded with suspicion. Cancer cannot, therefore, be eliminated.

Hypertrophic cirrhosis is a somewhat common sequel of protracted hyperæmia. We can dismiss advanced hypertrophic cirrhosis from the absence of œdema and jaundice, but the chronic malarial infection has undoubtedly induced a certain amount of hyperæmia, and this is in itself likely to produce the condition under consideration.

Lastly, we have hyperæmia. Passive hyperæmia, due to obstruction, is excluded by the absence of thoracic and other diseases.

In searching for literature upon the subject of changes produced by malarial infection one is impressed by the fact that no very definite statements are easily found. In the latest edition of Ziemssen, not yet published, Thierfelder there gives the result of most recent investigation. He says that chronic hyperæmia has been observed after any irritation that may call to the liver an unusual supply of blood; for instance, he mentions malarial infection and alcohol. The enlargement may be very great without any structural change.

In our patient the long presence of the malarial poison has been noted; the positive signs of organic disease are absent. There has been also an additional factor in causing hyperæmia, namely, the prolonged use of spirits for four years, and a moderate use since. There have been apparent fluctuations in the size of the liver. The sallow complexion can also be explained by this condition, and it therefore seems most probable, in the view of the light we have, that this perplexing enlargement is due to hyperæmia.

Cancer and hypertrophic cirrhosis resulting from the hyperæmia have not been eliminated, and the possibility of the existence of one or the other of these diseases must be borne in mind.

If the conclusion that simple hyperæmia alone is present be correct, the prognosis would be favorable.

The presence of hypertrophic cirrhosis would of course render the prognosis grave. Murchison, however, reports cases of improvement, and even recovery, under treatment.

Treatment. Thus far the patient has steadily improved under the following treatment: nourishing and simple diet, fresh air, exercise, and good hygienic influences. Alcohol has been forbidden, excepting a small amount of Tarragona wine at the time when a chill is thought to be approaching. He has been taking Fowler's solution, three drops three times a day, since September 24th, when I first took the case. At that time also ten grains of quinia were given, at a time when he was anticipating a chill, repeated in two hours; and for the first time in his history, as he says, he had no chill. This treatment has been continued for two weeks, and although on the last days of each week he has felt rather uncomfortable he has had no distinct chill.

DR. J. H. WARREN asked if the cicatrix of the sore on the penis could be seen now. He had seen cases where the primary sore did not amount to much, present afterwards symptoms of this kind. He thought that the case was either one of syphilis or cancer, and would recommend iodide of potassium.

DR. BROUGHTON replied that the patient had studied medicine at one time, and was fully able to recognize any secondary symptoms. He had anxiously looked for them, but had never seen any.

DR. BLODGETT inquired if there was any hysterical element in the case. The symptoms coming on towards the end of the week would be at a time when the patient would naturally be tired and nervous. He had seen such a case.

DR. BROUGHTON answered that the question had been considered, but was eliminated. Then, besides, he had a clearly defined history of intermittent fever.

DR. HICKS inquired as to the possibility of its being

a case of cancer, and said that cancers sometimes occurred without any glandular enlargements.

DR. FOSTER said that most of his life had been passed in a malarial district, but he had never seen a case of cancer arising from malarial origin.

DR. BROUGHTON said that he did not consider the case one of cancer arising from malaria. If cancer was present it was a complication.

URETHRAL STRICTURE.

DR. C. P. BANCROFT reported a case of urethral stricture, of large calibre, treated by Otis's method, which will be found in the first part of this number of the JOURNAL.

DR. BLODGETT asked to what Dr. Bancroft attributed the acute attack which took place eight or ten days after the operation.

DR. BANCROFT said that he could not account for it, except by supposing it to be due to some irritation caused by the passage of the sound.

DR. BLODGETT inquired more particularly as to the inflammatory band.

DR. BANCROFT said that this band was outside of the stricture. The whole penis became red, swollen, and inflamed, and when this inflammation subsided the band remained. He considered the gleet due to the stricture.

DR. J. H. WARREN spoke of a case of the same kind in his practice, where there was chronic inflammation of the bladder. The urethra was gradually dilated to admit a No. 30 French bougie, but on discontinuing the use of the instrument the gleet returned. An examination of the urine showed inflammation of the neck of the bladder. He sent the patient to mineral springs of a diuretic character, and when the cystitis disappeared the urethral inflammation also subsided.

DR. CORNELL inquired as to the way in which gonorrhoea was treated now,—whether with or without injections. Was it the general opinion that injections caused stricture? His experience had been that they did.

DR. J. H. WARREN exhibited some instruments which he presented before the British Medical Association in August last, before the Académie de Médecine, at the University Clinic Hospital, also in the Charity Hospital, and to many distinguished gentlemen of the profession in various parts of Europe. From the very flattering manner in which he was received, and the high commendation bestowed at various places upon these surgical devices, he thought it might not be uninteresting to show the same, together with some new instruments purchased this summer while abroad. Dr. Warren said: Some few of these I presented to you last winter in their crude state. I now show you a few vermicular pointed catheters in three sizes. It will be remembered that in a former paper I described the ease with which, from their peculiar shape, they penetrate through strictured urethras and enlarged prostates into the bladder.

I next show you Sir Henry Thompson's tube as I have improved it. My idea has been to have a tip, one half of which is thrown back by a spring after it has entered the bladder so as to allow the *débris* of the crushed stone to enter the tube freely. The other half, being unjointed, acts as a scoop to take up any remaining particles in the bladder. The point, or tip, may be made to revolve, or may be stationary. I use

both kinds. The same arrangement may be applied to the straight tube of Bigelow, which does not have the curve of Sir Henry Thompson's. The tip can be perforated by a few holes, to prevent closure by the suction of the aspirator. A thin rein of steel wire can be attached to the movable portion of this tip, and worked at its lower end by a thumb-screw. In this shape it can be used for removing small particles from the bladder, shot and balls from deep gun-shot wounds, or foreign substances from the throat, nose, and ear. Internal medication to the uterus, throat, and rectum can also be made by attaching a piece of sponge on a wire, and passing the sponge and wire through the tube. The tube for these latter operations may be made smaller than that used for lithotomy.

I next show you Bigelow's tube with a vermicular point. This point allows a much larger tube to be passed and with less shock to the neck of the bladder than would otherwise be possible. This can be very readily demonstrated upon the cadaver. If we now look at the tubes of Thompson and Bigelow, we shall see that where the tube opens for the admission of *débris* and fluid from the bladder the tube is more or less enlarged, and presents a concavity into which the mucous membrane folds. In forcing the tube through we injure or even denude the mucous membrane, thereby often producing a hæmorrhage, notwithstanding the utmost care. The improvements which I have applied to these instruments do away entirely with this injury and difficulty of introduction, thereby overcoming what has hitherto been one of the greatest drawbacks in the removal of stone by so large a tube. With my smooth point gliding through the parts, there is less shock to them and less tendency to cystitis. As we are in duty bound to take every measure to prevent fatality following these important operations, I think it will be found by those using these tubes of mine that the mortality from the operation will be much smaller than hitherto. I have designated this instrument the Thompson-American tube, in honor of the distinguished operator in this branch of surgery.

I next show to you a new uterine probe, with revolving point, which has been most heartily approved by all gynæcologists of Europe and of this country who have seen it. Probe No. 2 can be used for making internal applications to the uterus, since, having a fenestrated opening upon the point, which is of platinum or other non-corroding metal, a tuft of cotton can be threaded through, medicated with whatever preparation we desire, and applied to the parts in question. This same instrument when tipped with porcelain can be used for probing in gun-shot wounds.

I show you here No. 16 and 30, from the set of my revolving bulbular pointed sounds. They partake of the wedge and screw form, and are very useful in dilating the urethra. By increasing the size we can use them for rapid dilatation of the uterus, or for dilatation of the rectum or œsophagus.

I next show trocar No. 1, with revolving point, which is very useful in a large majority of cases requiring tapping, in general anasarca, etc. By withdrawing the staff bearing the vermicular cutting point, and inserting the smooth vermicular point, we have a female catheter, which I think will be very highly appreciated by the general practitioner. Trocar No. 2 is a flat oval, revolving upon the handle, and allowing the fluid to escape through the body of the instrument and out of the end of the handle, where a rubber tube

is attached to convey the fluid away. Trocar No. 3 is a large trocar, which can be used for tapping large effusions, and also for ovariectomy. The revolving point upon all these trocars allows them to be passed through the tissues far more easily than ordinary blunt-pointed trocars can be. I next present to you aspirating needle No. 1, flat oval in form and twisted. From its peculiar shape it makes a wound easy of coaptation, and working as a spiral twist it can be inserted through firm and hard tissues and ligaments with great ease, and remain in the exact position in which we leave it, nor can it be forced out. The point, being flat and lancet-shape, will not glance to one side, as the ordinary scarf-pointed needle, but will go straight to the mark wherever we wish to send it. It is very useful also in tapping about the knee-joint, in effusions of the pericardium, in the tumorification in strangulated hernia, or in hydrocele, where I have found a small needle like this far better to remove the effusion than a large trocar. Exploring and aspirating needle No. 2 is much longer and of a larger size than No. 1. It is used for deep-seated abscesses, ovarian cysts, fibroid and other tumors of the uterus, or any deep-seated abscess of the liver and abdomen. This needle was made for me by Messrs. Weiss and Son, of London.

The herniatome No. 1 is an instrument which Dr. Bryant tells me he invented some twenty-five years ago. I have had a saw cut upon the cutting edge to divide Poupart's ligament. I thus think to avoid the possible hæmorrhage resulting from the use of the ordinary herniotomy knife, as the saw working in a sheath in the body of the instrument produces a serration and laceration of the coats of the blood-vessels. I have slightly altered the instrument in several other points as well. No. 2 is an instrument devised by Weiss several years ago. Upon this instrument I have also had a saw cut on the cutting edge. A protecting slide or female sheath covers the cutting or male portion of the instrument. While the instrument is being introduced the cutting edge is covered. When well in place the sheath is withdrawn and the saw-like motion set up to cut the ligament. These herniatomes will be found very useful in the operation for strangulated hernia, since no director has to be used, and since no injury or hæmorrhage will result from the introduction of the instrument or the subsequent division of the ligament.

I next show you Dr. Goldenbird's torsion forceps, which are used exclusively in Guy's Hospital. It will be noticed that the jaws are very broad. I saw several in use during operations in the hospital, and, owing to their great simplicity and strength, they are the most powerful and the best torsion forceps I have ever seen.

The last that I shall show you this evening is a triangular pus basin, with the spaces between the angles so rounded out that they will fit any part of the body. The suggestion made by Dr. Hicks, of a rubber tube and a stop-cock at the bottom to convey away the fluid, I think would be a great improvement to the basin.

These instruments are made by George Tiemann & Co., of New York, and can be ordered through any dealer in surgical instruments in this country or Europe.

DR. BLODGETT showed two specimens of Chian turpentine, and said that he did not know how an oleoresin like this was digested in the system. One of these specimens was prepared by triturating the turpentine with sugar of milk, one part to ten. The

second preparation was merely the turpentine added to or suspended in water.

DR. J. H. WARREN said that he had been much interested in Chian turpentine. While he was in England he took occasion to inquire into its use there, and found that it was looked upon much as cundurango had been regarded here.

DR. W. S. BIGELOW showed an instrument which had been devised for cutting plaster, or other stiff bandages. It was a small circular saw set in a stout handle. At the lower part of the handle is a beak, which serves as a guide and also as a protector to the skin. The saw is moved by a second handle. It operates very successfully.

RECORDS OF THE BOSTON SOCIETY OF MEDICAL SCIENCES, OCTOBER, 1879, TO MAY, 1880.

JAMES J. PUTNAM, M. D., SECRETARY.

FEBRUARY 17TH. DR. A. T. CABOT showed *microscopic specimens from the wall of a fistulous tract near the rectum* running from the neighborhood of the anus to that of the scrotum, which had been operated upon recently at the Massachusetts General Hospital. Sections made near the middle of the tract showed that it had an epithelial lining, with glands beneath, like a mucous surface, and the probability was that it consisted morphologically in a prolongation of the so-called pockets of Morgagni, as Chiari has shown with regard to similar fistulæ.

DR. DWIGHT confirmed Dr. Cabot's opinion as to the glandular nature of the bodies seen.

In reply to Dr. Bowditch, DR. CABOT said that this glandular structure ran the whole length of the tract, though not everywhere developed to this extent.

DR. BOWDITCH said that it would be interesting to know whether chronic fistulæ in other parts of the body would show characteristics of this sort.

DR. CABOT could not answer this question fully, but could say that in cancer of bone following fistulæ due to caries the epithelial formation dipped down from the surface.

DR. DWIGHT referred in this connection to the little tracts running inward from the skin in the neighborhood of the sacrum.

DR. QUINCY exhibited *microscopic preparations from the diaphragm* of the rabbit, of which the whole circulatory system had been injected from the carotid. The preparations showed channels also injected, but entirely distinct from the blood-vessels, and resembling those described by Klein as lymph spaces.

DR. DWIGHT spoke in support of this opinion, and confirmed the statement as to the absence of breaks through which the injecting mass could have escaped. He agreed with Dr. Bowditch that these channels were small lymphatics rather than lymph spaces, looking, as they do, entirely different from the straight, narrow passages beneath the central tendon.

DR. WHITE spoke of a unique case of *parasitic disease in a wild mallard duck*. The duck had been sent to a gentleman's house, and returned again to the market as not good, the cook having laid bare and inspected a portion of the breast and found it diseased. The whole of the pectoral muscles and parts of the skin were packed with cysts as thick as is ever seen in hog's flesh. These cysts were little elongated bodies, three to four times the size of trichinæ

cysts. On examination they were found to be in an early stage of segmentation. The embryos had not yet begun to assume very definite form, so that it was impossible to say what species they would develop into.

The mallard is prolific in parasites, as compared with other birds, and Diesing gives a dozen varieties, but no encysted form, either for this or any other bird. It is a large feeder, being called, as Dr. Cabot says, the hog among birds. The specimen has been examined at Cambridge, and is pronounced to be the *Proterospermia*, the encysted stage of *Grægerina*.

DR. WHITNEY showed *microscopic preparations from a tumor* removed from the neck of a patient at the Massachusetts General Hospital, and discussed its nature.

DR. WHITE asked what distinction Dr. Whitney made between rodent ulcer and epithelioma.

DR. WHITNEY said, none histologically, but he believed there was a difference in their seat of origin.

DR. WHITE thought this was not so, at least as far as the skin is concerned, and said that it seemed to him the distinction was a purely artificial one, made by surgeons. Neither did he think the size of the cells necessarily greater in epithelioma, even when it develops, as it does, from sebaceous glands.

DR. CABOT spoke briefly of some experiments which he was making to determine *whether a one per cent. solution of carbolic acid is strong enough to be safe for use in washing out cavities*. His experiments had confirmed his own belief that the solution is strong enough to destroy bacteria if allowed to act for at least ten minutes, and thought that even a weaker solution would do if left still longer. He had found the lowest forms of bacteria less resistant than the higher forms. In reply to Dr. White, Dr. Cabot said that he had kept his fluids at the temperature of the room.

DR. BIGELOW thought that to make the experiment complete the fluids should be kept at the temperature of the body, since the difference is often enough to carry off rapidly fluids which at ordinary temperatures keep for weeks and months.

MARCH 23D. DR. GARLAND read a paper, which is published elsewhere,¹ describing some experiments made by himself and Dr. H. P. Bowditch *as to whether the heart is active or at rest during its diastole*. The method employed had been to connect the heart with tubes containing valves which could be reversed at will, so as to allow the defibrinated blood, which was used in the experiments, to pass either towards or from the heart, but not both ways, thus making it easy to determine the amount of suction exerted. The results were in favor of the theory of active dilatation.

DR. BOWDITCH called attention to the explanation of muscular contraction given by Engelmann, namely, that it is due to a sort of osmosis, fluid being transferred from one part of the muscular fibre to another. If this is true, it is easy to conceive that the cardiac diastole should be an active process.

DR. JEFFRIES showed Holmgren's new apparatus for testing the quantitative color sense.

DR. BOWDITCH made an oral communication upon the instruments used in pneumonography.

An apparatus for recording the respiratory movements may measure either (1) varying circumference of the chest, (2) the rise and fall of the diaphragm,

(3) the tension of the air in a tube connected with the machine, or (4) the volume of the inspired air. The pneumograph of Marey is an instrument of the first sort, the phrenograph of Rosenthal one of the second.

An apparatus operating as a combined pneumograph and phrenograph was exhibited. It was intended for studying the human respiratory movements. The difference between the records of instruments of the third and of the fourth classes was pointed out. Instruments of the fourth sort are of two classes: (a) those in which the animal breathes into a confined space, the air of which communicates with a registering apparatus; and (b) those in which the animal lies in a confined space, breathing the external air through an opening, while the air around him communicates with a registering apparatus.

In instruments of class a, the space into which the animal breathes must be made quite large, and the air frequently changed to prevent suffocation. Where it is desired to study the effect of asphyxia the animal may be allowed to breathe into a horizontally placed burette, in which a loosely fitting float moistened with glycerine and water slides to and fro with the respiratory movements. By connecting this float with a pen a tracing of the respiratory movements may be obtained on a revolving cylinder.

In an instrument of class b the connection between the lungs of the animal and the external air is usually made by means of a tracheal canula; but it is possible to draw the head of the animal through an opening in the side of the box, and thus enable it to breathe the external air, while a rubber collar attached to the opening fits around the neck of the animal tightly enough to secure a correct record of its respiratory movements without interfering with respiration or circulation. An instrument of this sort was exhibited to the society.

APRIL 27TH. DR. JEFFRIES showed a new arrangement of worsteds as a test for color-blindness, sent by Professor Donders.

Oblong cards were wound with worsteds of a certain color, with bauds of other colors, chosen by actual experiment with the color-blind, as exactly resembling those with which they were contrasted.

There were sets arranged in this way for green, blue, and violet color-blindness. The sets used by Professor Donders himself have been chosen by experiments with some forty color-blind persons.

MAY 18TH. MR. MINOT demonstrated some microscopic specimens illustrating the *anatomy of the snake's tongue*, to be published elsewhere.

DR. BOWDITCH showed a new form of *pharoscope*, for studying the changes in the cornea and lens during accommodation, answering the same purpose with the apparatus of Helmholtz, but being more convenient. It consisted in a blackened hand-screen, about six by four inches in size, cut in which was a vertical slot, the width and position of which could be altered at will. Behind this slot two small gas-jets sprang out horizontally and parallel to each other. Thus two spots of light were thrown through the slot, and as the apparatus was mounted on a suitable handle they could be conveniently thrown upon the observed eye, and the changes in the position of their reflected images readily noted.

DR. JEFFRIES showed the new apparatus of Donders for a quantitative test of color-blindness.

¹ Vide Boston Medical and Surgical Journal, May 6, 1880.

Medical and Surgical Journal.

THURSDAY, NOVEMBER 18, 1880.

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Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

THE CARTWRIGHT LECTURES.

THE first of the Cartwright lectures was given on Tuesday evening, November 9th, at the College of Physicians and Surgeons, New York, by Dr. Roberts Bartholow, now professor of materia medica and therapeutics in the Jefferson Medical College, Philadelphia. This is a course of lectures which is hereafter to be given annually, under the auspices of the Alumni Association of the College of Physicians and Surgeons, and the expense of which is provided for by the liberality of the late Mr. Cartwright, of Newark, New Jersey. In his will he bequeathed to the association the sum of ten thousand dollars, a portion of the income from which is to be devoted to a biennial prize of five hundred dollars, open to the profession, to be awarded to the best essay, involving original research, upon a subject duly announced by a committee for the purpose, while the remainder is to pay the expenses of an annual course of lectures before the association and the profession at large by some medical man of distinguished attainments. This is the first instance of the establishment in this country of a lectureship on the plan of the Gulstonian, Lettsomian, and other lecture courses in England, which have been of so much service to the profession, and it will be the aim of the association to maintain the same high standard in the Cartwright lectures which has hitherto characterized the English ones.

To Dr. Bartholow has been assigned the honorable distinction of delivering the first course of these, and he has selected for his subject the Physiological Antagonism between Medicines and between Remedies and Diseases. On Tuesday evening the lecture-room was crowded to excess, and a large number stood up during the entire lecture. This was because, unfortunately, a general invitation had been issued to the students of all three of the large medical schools. The students, as a rule, came very early, and almost completely filled the hall, so that many regular members of the profession, arriving just before the hour announced for the lecture, were unable to obtain admittance at all. Dr. Robert F. Weir, the president of the Alumni Association, made a statement of the provisions of the Cartwright bequest, and then introduced Dr. Bartholow, who was received with great warmth.

After a graceful introduction the lecturer gave a résumé of the various theories which have prevailed in therapeutics from the time of Hippocrates down to the present day. He then alluded to a number of the antagonisms between medicines which have been

proved to exist, in the order of their discovery, and showed that there were striking analogies to such antagonisms in the mechanism of the functions of the brain, heart, and other organs of the human economy, in physics and in chemistry. He also spoke of the brilliant achievements of Bichat, Magendie, and their followers in experimental physiology, and dwelt particularly on Magendie's researches in regard to strychnia, by means of which its therapeutical properties had been brought to light, and especially its antagonism for paralysis. Finally, he took up in detail the subject of the antagonism between opium and belladonna, and in the course of his remarks showed the fallacies of Brown-Séquard and other observers, who had attempted to prove experimentally that no such antagonism existed between the drugs. He said that one hundred and twenty cases had now been collected in which one of these agents had been employed to counteract the effects of poisonous doses of the other, and that in these there had been only fifteen failures. The lecture was concluded by the narration in detail of these fifteen cases, and in each the causes were pointed out why the treatment had been unsuccessful. In most of them the reason was shown to be that too small a quantity of the antagonistic medicine was employed. Six lectures in all are to be given by Professor Bartholow, and they will be delivered on successive Tuesday evenings.

THE MARINE HOSPITAL SERVICE.

THE report of the supervising surgeon of the United States Marine Hospital Service for 1880 again contains its oft-repeated plea for the better protection of vessels at sea from accidents by proper examination of the sailors of the merchant marine. The number of sailors treated for incurable diseases, which unfit the sufferers from active duty, by the medical officers of the Marine Hospital Service, as shown by the report, is truly appalling. The permission to ship owners and masters to avail themselves of the services of the surgeons of the Marine Hospital Service, in manning vessels, is rendered useless by the method of shipping sailors. Under existing circumstances a man with advanced heart trouble, or just sufficiently restored from some prostrating disease to be discharged from hospital, is liable to be shipped, only to break down at the critical moment when his services are most necessary for the safety of the vessel and whatever she may contain.

Much is truly said of the inhumanity of the officers of merchant vessels. One of their number has made the plea to the writer that it was absolutely necessary to get a certain amount of labor out of the incapables to prevent the utter exhaustion of the few really able-bodied men on board. "Allow us to man our ships with sound men that we pick ourselves, and one great motive for harsh treatment will be taken away."

The report also urges the establishment of a national snug harbor, or sailors' home, for disabled seamen. It does so chiefly on the grounds of humanity; it might also urge it from a utilitarian point of view.

The possibility of finding refuge in comfortable quarters would take from many an unseaworthy sailor the motive for continuing in a position for which he is no longer fit, and in which he actually endangers the safety of the ship.

Many of the men who would be candidates for such a home are men who have spent their best days in the navy or revenue marine. No longer fit for such duty, they drag out a miserable existence, alternating a few months' labor at sea with intervals of "hospital bumm-ing." The Marine Hospital Service is doing good work with its examinations of pilots for color-blindness. We hope it may soon have the opportunity to do still more towards increasing the safety of ocean travel.

Surely the supervising surgeon-general will pardon us for asking that in future reports the surgical statistics shall serve some other purpose than simply to advertise the fact that certain surgeons have done a certain number of operations. We wish particularly to refer to the tabulation of operations on the urethra. Nearly three pages are covered with a long enumeration of cases of stricture treated by divulsion, dilatation, and internal urethrotomy, all of which, save three "partially successful" cases, were "successful." If we are to be treated to such an array of figures, why cannot they be sufficiently extended to be of actual benefit? We fail to see any special object in tabulating the amputations of the phalanges of the foot and hand, or in the separate mention, among miscellaneous operations, that tapping a hydrocele was performed by A. B. C. without an anæsthetic, and that the result was "successful."

AN IMPARTIAL CRITIC ON LITHOLAPAXY.

LITHOLAPAXY seems to have received its dues in the following review of Sir Henry Thompson's *Practical Lithotomy and Lithotripsy*; or, *An Inquiry into the Best Modes of removing Stone from the Bladder*,—a third edition of which has been recently published. It is from the *Practitioner* of October, 1880, a journal of the highest London reputation, edited by T. Landor Brunton, M. D., F. R. S., one of the physicians of St. Bartholomew's Hospital, and a lecturer in its medical school.

"The interest in the third edition of this work centres in the eleventh chapter, on Lithotripsy at a Single Sitting, and we may confess at once that we are not thoroughly satisfied with this chapter. The small meed of praise bestowed on Professor Bigelow for his brilliant suggestion; the condescension with which Sir Henry Thompson says that his 'mind was already prepared by past experience to receive it favorably;' and the manner in which the author makes use of Bigelow's instruments (slightly modified), and at the same time condemns them, will be very gratifying to the impartial reader. In truth, Professor Bigelow's method and the instruments he has invented are not unlikely to produce a complete revolution in the teachings which have hitherto prevailed on the subject of lithotripsy. It has already been proved in America and in this country that stones of considerable size may be removed at one sitting with the hap-

piest results, even in men of advanced age, and in those whose constitutions appeared but little adapted to bear the strain of such an operation; and the question which now occupies the minds of the most distinguished lithotritists is whether the proceeding of Bigelow should be universally employed for the removal of stone in adults. Sir Henry Thompson's experience of the operation extends to thirty-five cases, in which he has performed it without a single fatal result, and almost without mishaps; yet many of his patients were very old, and some of the stones were very large. The objections made to the large size of Bigelow's instruments appear to us untenable; and the statement that the 'extra work necessary to be performed at a single sitting especially demands a practiced hand to do it safely,' although it may be true, at present requires to be proved. That the bladder will bear with impunity much rougher handling than Sir Henry Thompson appears to believe is proved by the work of other operators, bolder, if perhaps less skillful, than himself. We are ourselves aware of cases in which the operation was continued for upwards of an hour before complete removal of the stone was effected, and in which the patient recovered without a bad symptom. Nevertheless, Sir Henry Thompson is probably quite right in exercising caution, and while we should not dare to recommend to so admirable an operator a little more boldness, we have no hesitation in recommending a little more generosity in acknowledging the value of a proceeding which is likely to reflect the greatest credit on Professor Bigelow, and through him on American surgery."

MEDICAL NOTES.

— In commenting on a recent case of Death from Chloroform,¹ the *British Medical Journal* (formerly a partisan for chloroform), October 30, 1880, page 715, says: "The chloroform appears to have been administered with due skill and care, and the patient was a fit subject. Seeing, however, the lamentable frequency of fatalities following chloroform anæsthesia, and the generally admitted greater safety of ether, we think it right to call attention yet again to the advisability of preferring that which is held to be the less dangerous anæsthetic."

Without laying ourselves open to a charge of a want of generosity, we think we may permit ourselves to remind our readers that the *British Medical Journal* fought us furiously in 1870 for upholding ether. Since that time we believe its management announced a complete change of base on this question, and we call attention to the above extract merely to reiterate our joy over one repentant sinner.

We are not unmindful that an inexplicable death from the administration of ether was the subject of a manly, candid, and instructive lecture by the unlucky operator himself before a class of students in Cincinnati not long since. It is a question of comparative, not of absolute safety.

¹ Alluded to in our number for October 28th, under the head of *Obsolescent Surgery*.

— We copy the following from the London *Lancet*: An extraordinary account of recovery from a rattlesnake bite has been published in *Land and Water*, by Dr. Arthur Stradling, of H. M. S. Elbe, who has apparently been making some experiments, no doubt well intended, but most unwisely ordered, in the endeavor to discover an antidote. He had arranged for the snake — a small *Crotalus horridus*, about eighteen inches long — to bite his right arm above the wrist, and he grasped the creature with his left hand, protected by a thick leather glove. The snake, however, managed to wriggle through his fingers, and bit him on the back of the left fore-arm, leaving one of its fangs sticking in the wound. Putting it back in the box, he picked out the bit of fang with a pair of forceps, and sat down to watch the result! This was at one o'clock in the morning. He had ligatures, ammonia, brandy, and nitric acid at hand in readiness, but the value of the caustic and ligature could not be great, since he waited for the symptoms of absorption before applying them. He went on waiting for four hours, until five A. M. Then he noticed that the lymphatics higher up the arm were swollen and inflamed, and almost at the same moment he became aware of light-headedness, and of a burning sensation traversing his whole frame. There seemed to be great vascular and mental excitement, yet his temperature was down to 96° F. After this evidence of absorption he applied the nitric acid to the bite, but almost immediately became irresistibly drowsy, and then unconscious. At eleven A. M., ten hours after the bite, he was found insensible, pale, pupils contracted, feet and legs cold, but with an axillary temperature of nearly 100° F.; the intercostal muscles, arms, and legs were paralyzed; the diaphragmatic respiration was irregular. A medical man on board sucked the bites, and cauterized them freely, and gave ether and ammonia every half hour. There was no movement of the body until three in the afternoon, when a tetanic spasm occurred, followed by hiccup and twitching of the muscles about the shoulders. The experimenter then recovered consciousness, slowly regained power over the limbs, and slept for twelve hours. After this he was well, except for prostration. It is hardly possible to conceive an experiment made under more reckless conditions, — an experiment with a rattlesnake in solitude, in the middle of the night, and by an observer apparently ignorant of the rapidity with which the action of the poison, once set up, develops. The result teaches nothing new, and it is difficult to understand what, under the circumstances, could be learned from it.

— The London *Lancet* thus concludes a reference to the recent Homœopathic Congress at Leeds: "At the dinner in the evening Dr. Yeldham tried to speak comfortably to his brethren on the subject of the slow progress of homœopathy. He thought great reforms were always slow, but considering the reasonableness of the age and the fast rate at which truth and falsehood are exposed, it is certainly becoming a serious argument against homœopathy that eighty years after its promulgation it is as much without

scientific recognition as it was two generations back. About the same time that homœopathy was announced Jenner announced the efficacy of vaccination. Let anybody contrast the fate of the two announcements: the one accepted by every civilized country and by every medical school in the world; the other without recognition in any European university, even in Germany, the land of its origin."

— According to the *Medical Times and Gazette*, Professor Lücke, of Strasburg, relates the case of a woman, aged twenty-eight, who, having had a cancrroid tumor removed from the right submaxillary region in 1878, presented herself in February, 1880, with a relapse, a tumor having formed in the cicatrix, and a large one under the right sterno-cleido-mastoid. On removing the latter he found it intimately connected with the muscle. The carotid artery was easily separated from it in its whole length, but the jugular vein and nervus vagus were closely united to the tumor. The vein was tied close to the clavicle and above the tumor, and this last was removed with the vein and the nervus vagus attached to it. The bleeding was inconsiderable, and the portion of the nerve measured about twelve centimetres. No remarkable effects were produced on the respiration or pulse at the time of dividing the nerve. The nerve was found to be four times its natural thickness, but no effects were produced on the respiration during the healing of the wound. The patient presented herself in the July following, and manifested only an easily excitable respiration, which in other respects was normal. The right side of the face was in a hypertrophied condition.

— Remedies for bromidrosis, or, as the Germans more graphically call it, "stinking foot sweat," abound in the journals. The latest one is a solution of chloral in alcohol and water applied several times a day. An application of equal parts of belladonna ointment and glycerine we remember to have seen lately as a highly praised remedy. One great difficulty in the way of removing the odor lies in the stockings and shoes. These must be treated as energetically as the epidermis.

NEW YORK.

THE annual meeting of the State Board of Health was held in Albany on the 10th of November, and there was quite a full attendance of the members. Although it has been such a short time in operation, its organization having taken place only in June last, the board has already accomplished some very good work, especially in providing for a more general and complete registration of vital statistics, and in the investigation of localized epidemics of diphtheria, dysentery, typhoid fever, and other diseases in different parts of the State. At this meeting certain sanitary orders, regulations, and ordinances, which had been previously proposed, were recommended for adoption, and among them were the following:—

That all things dangerous to human life or health are deemed to be nuisances, and any person who may retain them shall be guilty of a misdemeanor; no

privy vault to be allowed within fifty feet of a well or spring; no offal, dead animals, or refuse to be thrown on the streets, and all decaying vegetable or other putrid matter to be removed from cellars on or before the 1st of May, with a penalty of twenty-five dollars for violation; no tanner, refiner, or manufacturer of gas, starch, leather, chemicals, or fertilizers to throw refuse in any natural stream of water; that no impure fish, flesh, fowl, or vegetable, or other article for human food, be allowed within the city or village limits, the penalty for a violation being twenty-five dollars' fine, in addition to a penalty for misdemeanor. Householders, in whose dwellings there is a case of cholera, yellow fever, typhus, typhoid, or scarlet fever, diphtheria, or small-pox, shall inform the local board of health, and until instructions are received shall not permit any clothing or other property to be removed; physicians and attendants, also, to report to such board, and avoid exposure to the public of any garments or clothing about their own persons in which they have been in attendance on the sick; and such occupants to refrain from leaving their premises or changing their residence until all danger to the public health shall be over. There shall not be a public or church funeral of any person who has died of scarlet fever, Asiatic cholera, small-pox, yellow fever, or diphtheria, and the family are required to limit the attendance, and prevent needless assembling in the apartments where such dead person may lie.

Additional regulations were also recommended as appropriate to cities and villages only, in regard to the keeping of manufactories, the emanations from which are unwholesome or disagreeable; the slaughter of animals and the preparation and keeping of animal food; the cleansing of slaughter-houses every twenty-four hours; the inspection by the health authorities of any hotel, boarding-house, tenement house, private residence, theatre, workshop, factory, school, or other public or private building where the existence of nuisances may be suspected; and the enforcement of regulations prohibiting the sale of impure milk and other deleterious articles.

At the evening session Mr. Erastus Brooks and Dr. Elisha Harris, the secretary of the board, were appointed to attend the annual meeting of the American Public Health Association, to be held in New Orleans on the 7th of December. Resolutions were also then passed urging upon the medical profession in every part of the State the importance of a thorough prevention of small-pox by proper vaccination, and appealing to all officers and teachers of schools and seminaries, superintendents and employers of factory operatives and other companies of work people, to secure the effectual vaccination of all persons under their supervision; also stating that it is the imperative duty of the public health authorities to cause a sanitary visitation from house to house to advise and make the vaccination of all who are unprotected against the contagion.

— Four cases of small-pox were recently reported in one family in Brooklyn. On the 16th of October

a son aged nineteen years was attacked with the disease, and later three other children were taken down with it; yet, strange to say, no physician was called in until the 7th of November. On the 8th one of the patients, aged three years and nine months, died, and the body was immediately buried by order of the health commissioners. The other patients were then removed to the Flatbush Hospital, and the house was thoroughly disinfected.

— Diphtheria has been becoming more and more prevalent in Brooklyn during the last few months. In July there were eighty-six cases and twenty-five deaths reported, in August, one hundred and twenty-seven cases and forty-nine deaths, in September two hundred and fifty-five cases and one hundred and two deaths, and in October four hundred and nine cases and one hundred and sixty-eight deaths. During the week ending November 6th one hundred and sixty-one cases were reported, with the large mortality of fifty-seven deaths. The disease is especially prevalent in the fifth, seventh, ninth, eleventh, sixteenth, and twentieth wards. Three of these wards are drained by the branches of the sewer emptying into the East River, at the mouth of Hudson Avenue, and in some cases the diphtheria is attributed to the condition of this sewer. Dr. Raymond, president of the board of health, states that as the mouth of the sewer is below the high-water mark, and as perforated man-traps have not been generally adopted in the city, the sewer is for a part of every day practically a closed vault, in which dangerous gases are generated. A careful inspection is made of the premises wherever cases are reported, and in fully thirty per cent. of them defects in the sewer pipes or plumbing are discovered. Nearly four hundred children have been taken from the public schools on account of the prevalence of the disease.

— The anniversary meeting of the New York Medico-Legal Society was held on the 3d of November. The reports of officers and committees for the past year were read, and the president, Dr. C. S. Wood, made his second inaugural address, his subject being, *The Society Historically Considered*. Professor R. Ogden Doremus then read a paper on *Epidemics from a Chemical Stand-point*, and by a number of illustrations showed that the germs of disease were frequently secreted in the walls of the sick-room, whence they permeated the atmosphere and thus bred contagion. He concluded by suggesting simple plans for the disinfection of hospitals. During the meeting a delegation from Boston, consisting of Mr. Theodore P. Tindale and Dr. Hosmer, ex-president of the Massachusetts Medico-Legal Society, were introduced.

PHILADELPHIA.

— During the prevalence of the epizootic last month there was a decided increase in the number of persons afflicted with catarrhal affections of the air passages, and in the cases of acute pneumonia. Owing to the presence of a few cases of variola in the city, there is now quite a brisk demand for vaccination.

Recent Literature.

A Directory of the Charitable and Beneficent Organizations of Boston, together with Legal Suggestions, Health Hints, Suggestions to Visitors, etc. Prepared by the Associated Charities. Boston: A. Williams & Co. 1880.

This Directory of Charities gives evidence of being compiled with care in most respects. As part of the work proposed for itself by the organization of Associated Charities of Boston, it is extremely well timed, and as a book of reference, for those wishing either to dispense or procure charity, it will be found very useful. We have failed to discover on just what principle the lists given of general hospitals and general medical dispensaries are in each case headed by the homœopathic institutions. The alphabet, priority of incorporation, extent of usefulness, have each in turn failed as a key to this problem, over which, perhaps, it was hardly worth while to waste so much time. But having a certain foolish obstinacy about puzzles, we finally explained this one by recalling to mind the scriptural promise that the lowly shall be exalted.

The chapter on Health Hints is concise, judicious, and to the point, but even for the sake of conciseness the statement that impure air *causes* typhoid fever and diphtheria is objectionable. We have not yet reached that stage of knowledge in regard to these and kindred diseases where we are justified in knocking down the barrier, however slight it may appear, which still exists between what we *know* and what we only surmise.

A Treatise on the Practice of Medicine for the Use of Students and Practitioners. By ROBERTS BARTHOLOW, M. D., etc. New York: D. Appleton & Co. 1880.

The author's intention in undertaking the preparation of a Treatise on the Practice of Medicine was to write a companion volume to his work on *Materia Medica and Therapeutics*. At the time he began to write this book he was still professor of the theory and practice of medicine and of clinical medicine in the Medical College of Ohio. His extensive and varied contact with disease as a practitioner, whether in the army or in civil life, in different parts of the United States, and under different conditions, as well as his experience as a teacher, have peculiarly fitted the author for the task which he undertook, and the best proof that there was a special need for a book on this subject is this book itself. The important characteristics of definiteness of statement, conciseness, and at the same time fullness at which the writer has aimed have been secured to a greater degree than in any similar work with which we are acquainted. The attainment of these objects has been borne in mind in the make-up of the volume as well as in the composition of the text; chapters have been dispensed with, and the intervals between sections abbreviated as much as possible by this arrangement, and by giving no space to merely historical disquisitions or to the discussion of controverted points a considerable gain has been made, and the volume kept within the proper proportions of a hand-book. The author disclaims all sympathy with the therapeutical nihilism of the day, from which on all sides many signs are manifest of a reaction not by any means confined to distinguished

therapeutists; the public are beginning to demand some tangible treatment in exchange for the fee. Dr. Bartholow is plainly of the same mind with Dr. Fothergill, of London, who, in a late letter to the *Philadelphia Medical Times*, expresses the feeling that when a patient comes to us in trusting confidence, placing health and life in our hands, and with them the prospects of his wife and children, surely, in return, a medical man with a spark of manly feeling or true self-respect will meet that trust as a man ought to do, namely, by the fullness of knowledge.

The fullness of knowledge, Dr. Bartholow evidently thinks, includes therapeutics. In the remarks on treatment the young practitioner will find a comforting but not provoking dogmatism; and his senior will find that of the proved and really valuable new remedies scarcely anything has been overlooked.

For the object for which it was written the book is to be heartily commended in every way, and the publishers have contributed a fitting dress to a well-written work.

The Hypodermic Injection of Morphia: Its History, Advantages, and Dangers (Based on the Experience of Three Hundred and Sixty Physicians). By H. H. KANE, M. D. New York: Chas. L. Birmingham & Co. 1880.

The author of this book, originally intending to write several journal articles, addressed six questions to the profession through the columns of various medical periodicals. He soon found himself in possession of so much material that he changed his plan, and put it together in the form of a book.

We should say that the abuse of hypodermic injections of morphia has of late somewhat declined, and that it had reached its climax about the time Dr. Kane began to collect his materials. It is certain that this abuse of a valuable agent was very great, and is so still. The collection and publication of positive data and certified cases is a better and more efficient way of combating such an abuse than by mere vague general denunciation. Dr. Kane's cases and replies received emphasize forcibly also the extreme limits within which doses of morphia administered subcutaneously are safe or dangerous, according to the idiosyncrasy of the patient. This is a point which cannot be too strongly insisted upon. The custom of guessing at the dose of morphia in powder is one which the book shows to have been only too prevalent.

We are afraid the American predisposition for short cuts will prove stronger than its respect for the analogy of formations in Greek and for the actual usage in derivative words of this form, and that Dr. Kane will find it hard to persuade a medical world, which for the most part knew not the advantages of preliminary examinations in its youth, to substitute "hypodermatic" for "hyperdermic."

The Utricular Glands of the Uterus. By PROF. G. B. ERCOLANI. Translated from the Italian under the direction of HENRY O. MARCY, A. M., M. D. Houghton, Mifflin & Co. 1880. Ap. 305.

The profession are under great obligations to Dr. Marcy for the translation into English of Professor Ercolani's valuable work on the utricular glands of the uterus. In connection with it is Dr. Ercolani's monograph upon the unity of the anatomical type of the pla-

centa in the mammalia, and the physiological unity of the nutrition of the fœtus in the vertebrates. It is impossible in the limited space at our command to give even a synopsis of the views held by the author. The work is the result of many years of study by one who is recognized as an authority on the subject of which he treats. The translators, M. Smead and S. S. Jacobs, have rendered the Italian into most readable English. The publishers are to be especially alluded to, since the work, so far as they are concerned, is one of the finest published medical volumes with which we are acquainted. The book is accompanied by an atlas containing fifteen plates, which are really wonderful reproductions by the heliotype process of the plates as originally engraved by Bettini.

The Ocean as a Health Resort. A Hand-book of Practical Information as to Sea Voyages, for the Use of Tourists and Invalids. By WILLIAM S. WILSON, L. R. C. P. Lond. With a Chart showing the Ocean Routes and illustrating the Physical Geography of the Sea. Philadelphia: Presley Blakiston. 1880.

A useful book for those who, without previous experience of the sea, have determined on making a long sea voyage, especially if in a sailing vessel, for health or even for pleasure. It contains many useful hints and directions with reference to the proper outfit, the hours to be kept, and the rules of life to be laid down; the things which are enjoyable and may be safely enjoyed in life at sea, and the things attended with risk, and to be avoided under certain circumstances or in certain conditions of health: these are all mentioned and judiciously commented on.

The author's views are mainly based on the voyage by sailing vessel from England around the Cape of Good Hope to Australia, though other voyages eligible for invalids are mentioned. One who has never made a long voyage around the Cape of Good Hope or Cape Horn would not be likely to appreciate the many advantages in little matters which a previous perusal of such a book as this would bring him, and one who has made such a voyage would be likely to concur in most of what our author says. In all long voyages there is inevitably a good deal of monotony, and the tendency of life at sea is to throw an individual a good deal back upon himself; and we think this is not sufficiently borne in mind in prescribing them for nervous conditions accompanied by derangement of the digestive system, where there is apt to be a disposition to introspection.

We remember of late reading in some of the English journals the outlines of a project for establishing a sort of floating hotel to cruise around the British Islands, stopping daily at various places of interest, and taking passengers by the day or week. The idea was suggested by Mr. Gladstone's cruise in the *Grantully Castle*, and does not seem an impracticable one in those waters.

There could be no more refreshing or grateful change for the worn-out professional or business man, provided he were a pretty good sailor.

"Three faces has the doctor: longed for, he
Appears angelic; giving ease, divine;
But let him, long delaying, ask his fee,
His horrid visage Satan's doth outshine."

(Translated from the Latin in *Times and Gazette*, 1864.)

Miscellany.

LETTER FROM LONDON.

MR. EDITOR, — The Guy's Hospital episode has at last ended by a descent from the sublime to the ridiculous. The staff, in the face of the determined attitude of the governors and under the pressure of the threat of wholesale dismissal, has completely succumbed, and may now be said to be at the mercy of the governing body. In my last letter I told you that the senior physician and senior surgeon had signed a letter which had been drawn up on behalf of the staff to the governors, that the letter contained expressions stronger than was advisable under the circumstances, that the governors had demanded that the offensive expressions should be withdrawn, and that upon the refusal of the staff to recall them the gentlemen who had signed the letter were requested to send in their resignations. This firmness on the part of the governors has had the effect it was intended to produce, and the staff have agreed to the step which they had previously refused to take. The governors have accordingly withdrawn their request that the senior physician and senior surgeon should resign, but in doing so have stated their determination to govern the hospital in their own way, which determination, they significantly add, the medical staff must accept. Thus, after a hard-fought battle, the governors have come out the victors at all points, and this is mainly due to the strategic mistakes of the staff. I hinted in my last letter that public opinion, which till recently had not taken any special side in the matter, was somewhat prejudiced against the doctors by their method of conducting their case. There can be but little doubt that by their recent submission, added to the false step which led to it, they have to a considerable extent alienated even medical opinion from their side. They had so strong a case in their favor, and might have made so formidable a resistance to the action of the governors had they been able to keep their tempers, that it is vexatious to find that they have been obliged to succumb so completely. Moreover, it is difficult to sympathize entirely with a body which resists valiantly until its worldly interests are threatened, and at that point gives way. It is astonishing that the staff had not more power of foreseeing the consequences likely to arise from their refusal to withdraw their letter, and that they should not have made up their minds at the time of that refusal to meet boldly any result it might produce. The whole transaction leading to the final *dénouement* has been a complete *fiasco*, due to loss of temper; and it is certainly not very creditable that a large body of intelligent men of the world like the medical staff of Guy's Hospital should have allowed themselves to behave in this pettish way. From the senior members of the staff who drew up the letter down to the students who formed themselves in two rows in order solemnly and formally to hiss the treasurer as he passed down between them, there has been a want of dignity about the proceedings of the medical combatants which one cannot but regret.

All this, however, cannot alter the real merits of the case. However necessary it might have been to introduce some changes in the nursing system of the hospital, — and on this point I have not the knowledge of the case requisite to form an opinion, — it is quite certain that reform is loudly called for in the general

constitution of the hospital. The governing body is composed of men who have but little knowledge of hospital management, and who have no special time to give to the hospital affairs. The power really lies in the hands of the treasurer, who is practically an autocrat. As in the case of other autocracies, so long as the autocrat is a man combining intelligence, business capacity, and a due regard for the feelings and wishes of those over whom he has to exercise control, this mode of government is a very convenient one. It is much more easy under these circumstances to introduce modifications in existing arrangements than when all proposals for such modifications have to pass through the hands of a nondescript committee; the modifications are more likely to be made in a definite direction and according to a regular scheme, and the systematic development of the hospital resources is thereby greatly furthered. But when the autocrat introduces changes of a doubtful character, and in spite of the protests of those who are likely to know infinitely more than himself about the question he is attempting to decide, the intrinsic demerits of this method of government are fully displayed. This is exactly what has taken place at Guy's Hospital. For twenty years it enjoyed happiness and prosperity under the mild but judicious rule of Mr. Turner, the late treasurer. This gentleman having resigned his position, he has been replaced by a ruler of the opposite kind, and hence the present trouble.

The system of government by a treasurer is not confined to Guy's Hospital. It exists also at the two great royal hospitals, St. Bartholomew's and St. Thomas's. In these also there have been good despots and bad despots. But there are features in the governing arrangements at Guy's which place it in a far worse position than either of these others. In all three hospitals the treasurer is responsible to the governing body, and in the two royal hospitals this governing body has a very real existence. Any one who contributes fifty guineas to the funds of the hospital becomes, by virtue of his gift, a governor, and it is therefore open to any one to obtain a place on the governing body. Consequently the governing body is composed of a miscellaneous set of men, and amongst its members it is quite certain that there will be a considerable number who take a real interest in the institution, and who in the case of any difficulty arising will be fully qualified to go into the matter and adjudicate upon it. At Guy's Hospital the case is far otherwise. The governing body is there self-elective; it is considered a compliment to be asked to join it, and the invitations are confined almost exclusively to men who have made their mark in politics, in law, or in other pursuits, which must of necessity occupy the greater part of their time and thoughts. A body so constituted is far more likely to delegate its power to the treasurer, and to allow him to have his own way, than a body composed of men able and willing to devote a considerable portion of their time to hospital affairs; and when called upon to decide between the treasurer and the staff it is much less likely to be able to enter into the feelings and wishes of the medical officers. So it has proved in the present instance. Notwithstanding that the united staff protested against certain alterations, the governors have allowed these alterations to be carried into effect. They have practically backed up the treasurer in everything he has done, and have turned a deaf ear to all that the medical men have

urged against the changes. Instead of constituting themselves into an impartial tribunal they have become heated partisans; and, ignoring the long and valuable services rendered them by the members of the staff, they have held themselves aloof from the latter, until the mutual relations between the two bodies had reached the tension indicated by the final struggle.

There can be no doubt that a change in the system of government at Guy's is urgently needed, and it is to be hoped that before long it may be introduced. Whatever may be set up in its place, the self-elective governing body ought certainly to be abolished. The staff ought, moreover, to be well represented in the newly-constituted body, and the powers of the treasurer ought to be greatly reduced. It is not altogether improbable that the attention of Parliament may be directed to the whole question of hospital management at no distant date, and any alteration in the management of Guy's may perhaps be postponed until the larger question can be inquired into. It is a question loudly calling for inquiry, not only from the point of view of the internal arrangements of hospitals, but also of their relationship to one another and their adaptability to the work required of them. I shall hope to revert to this subject in another letter.

POISONOUS MILK.

MR. EDITOR, — I wish to call the attention of the board of health and of the public, through the pages of your valuable journal, to the fact that in riding over Chester Park from Columbus Avenue to Beacon Street may be seen, upon the vacant lots on either side of the street, quite a number of cows feeding every day. The grass which these cows feed upon is soaked and saturated by stagnant water covered with the tide, which is mingled more or less with the *débris* and foul matter that is poured into the basin and Charles River. As this grass must be reeking with filth and slime, it has occurred to me that it might be the means, through the medium of the milk, of conveying disease to the various households supplied by this milk.

It is a well-known fact, and one reported by the chairman of the former board of health, Dr. H. I. Bowditch, that typhoid fever was conveyed in England to all consumers of milk from a certain dairy. In this case the cans had only been washed in spring water into which had flowed refuse from a house where typhoid fever was. In the *British Medical Journal* of October 16th of the present year, the medical officer for Shoreham had specimens of water and milk put under examination to attempt to account for the occurrence of typhoid fever in that town, and the town council of Rochdale actually found infected milk, and traced it to a farm having very bad sanitary arrangements. In the issue of October 9th, we find that an outbreak of scarlet fever at Paddington is alleged to be due to infected milk sold to the households. It is well known, too, that sanitary science has made discoveries of great practical importance to the well-being of every community. It has been proved by Dr. John S. Bristow and by others of great eminence in the profession in England, as well as by our own faithful and worthy board of health, that the poison of disease may be contained and conveyed in polluted drinking-water and various kinds of food, and that contagious diseases may be largely conveyed

through this medium. Many outbreaks of enteric fever in London have been traced to adulterated and impure milk.

We notice also in the *Gazette médicale* of Paris that Prof. Bouley lately presented a communication to the Académie de Médecine on the transmissibility of tuberculosis through the medium of milk. This he demonstrated by showing tubercles on the lungs, liver, spleen, and submaxillary glands from a five months' pig, killed after being fed sixty-seven days with four litres of milk per diem, taken from a cow suffering from tuberculosis. The same was noticed in rabbits. "I have considered," says M. Bouley, "that these incontestable proofs of the transmissibility of tuberculosis from the cow by the use of unboiled milk and by inoculation with the juice obtained from uncooked meat should not remain unknown, particularly as similar experiments have been made in Germany and with like results, but do not seem to have attracted the attention they merited." He recommends that a rigorous inspection of the abattoirs should be made concerning the existence of phthisis in cows, and thinks it would be prudent to boil the milk before using, especially for children, since boiling kills parasites and cell life in milk and meats.

If, on the strength of these authorities here quoted, to say nothing of others that might be quoted, we can say that infectious diseases can be conveyed in the milk of infected animals to human beings, is it any more than reasonable to suppose that cows fed upon vacants lots near or in a large city, whether around Chester Park or not, should yield milk deleterious to mankind? Is it unreasonable, moreover, to infer that animals fed upon such grass as grows in these places I have mentioned will receive further food in the shape of refuse and swill? Are they, then, proper animals to furnish milk to our children and families?

It is hardly supposable that one who has not made sanitary science a special study could add anything particularly new or suggestive to the testimony and investigations of Dr. Bowditch, who may be considered the father of sanitary preventive medicine in America, or to the work of our honorable board of health, who have labored so faithfully for the public weal in this direction. Still I would suggest that the board of health cause an investigation to be made at once to see whether any disease is likely to be conveyed by the milk of these cows feeding, as they do, upon lands reeking with filth, and sending forth most noxious odors, as we all know. If they have power to cause unhealthy houses and streets to be closed, have they not the same power to cause these lots to be vacated, and to prevent all animals from feeding upon them? Yours respectfully, JOSEPH H. WARREN, M. D.

A SMALL LIPOMA ON THE ANTERIOR LABIUM UTERI AS THE CAUSE OF STERILITY.

BY OSWALD STROINSKI, M. D., OF CHICAGO.

THE following extract from the *Chicago Medical Review* in its medico-legal aspects is of striking interest:—

Mrs. N. M., an English lady, aged twenty-eight, has been married for seven years, and, although her husband is in perfect health, has had no children. The healthy and intelligent lady consulted me as regards the cause of her sterility. She has had no sufferings

like those complained of by sterile women; she menstruates regularly and without difficulty, and is much attached to her husband, who had two children by his first wife. The examination of the sexual organs revealed no anomaly, but perfect development and regular forms. The uterus, of normal size, was in the virgin position (anteversion flexion). Its cavity could easily be entered by the probe; there existed no inflammation in or around the organ. Bimanual palpation showed the ovaries normal. The heart was likewise perfectly healthy; no nervous affection existed. Almost willing to end the examination as perfectly negative, I discovered finally an apparent elongation of the anterior part of the neck of the uterus. On examining with Sims's speculum, this proved to be due to a small, movable tumor at the edge of the anterior lip, which, on pressure with a rod, could be easily forced into the external os, closing it like a valve. On releasing the pressure the tumor returned to its former position, simulating an elongation. I excised the small tumor, which the microscope showed to be a lipoma. Within three months pregnancy occurred, leading to the birth of a healthy child.

This case proves strikingly that the fruitful coitus does not occur in the manner taught by Beigel and his school. Beigel claims that the pouch-like portion of the vagina next to the cul-de-sac of Douglas serves as a receptacle for the semen, and that the cervix subsequently dips into this pouch, and thus permits the spermatozoa to enter its cavity. This view is not supported in view of the fact that we frequently see pregnancy occur in spite of retroflexion, which, according to Beigel, should be a mechanical obstacle. It is, however, contradicted flatly by the present case, in which the cervix could dip freely into the pouch, but still no pregnancy occurred till after the removal of the tumor. The lipoma evidently acted as a valve during coitus. The case shows that the pregnancy could only occur when the semen was directly injected into the cavity of the uterus. It supports the old view of the continuity of the cavity of the cervix and the male urethra, and confirms what I have previously said about the action of the retractor uteri.

A point of medico-legal interest may yet be referred to. When rape is attempted no pregnancy will follow, according to our theory, in the case of a normal virgin uterus, since it is only in the erected state of the uterus that the telescopically elongated cervix can assume the proper position relative to the penis. If, hence, pregnancy is claimed to be the result of rape, the normal position of the uterus will contradict the story of a forcible attempt, and will show that consent was given. But in women who have passed child-bed the uterus has changed its position, and is so situated that conception may occur without erection of the organ.

Touching this case and these conclusions the *Review* says:—

"The report in this number of a very interesting case by Dr. Stroinski closes with a medico-legal conclusion of questionable accuracy. The view of Beigel does not necessarily exclude the possibility of spermatozoa entering the cervix, in whatever position the cervix may be. It may be said only that impregnation is more liable to occur when the os uteri lies in Beigel's reservoir for the seminal fluid, the posterior vaginal cul-de-sac. Therefore pregnancy in retroflexion is not necessarily incompatible with the view of Beigel, nor is it necessarily contradicted by this case, because the

lipoma may have obstructed the passage of the semen after coition, or, what is more probable, it may have produced so much irritation of the endometrium as to preclude pregnancy. Objections may be urged against both the premises and conclusions of our author's medico-legal point. The premises are probably incorrect; certainly not proven. The occasional occurrence of pregnancy without rupture of the hymen would almost disprove them. But, assuming the premises to be correct, the conclusion that the normal position of the virgin uterus renders pregnancy an impossible result of the forcible attempt would not follow, because if resist-

ance were offered up to and during the first part of coition, and the act were completed without resistance, pregnancy might occur, according to the author's theory, and yet legally rape would have been committed no less than if resistance had been offered throughout. Moreover, we have yet to be convinced that the physiological congestion and erection of the uterus, which the author deems necessary to impregnation, may not occur in the purely forcible attempt. The author's views, if incorrect, are capable of working serious injustice. This consideration, we doubt not, will lead him to overlook the liberty with which we offer this criticism."

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 6, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Typhoid Fever.	Diarrhoeal Diseases.
New York.....	1,209,561	583	220	26.07	14.41	16.47	2.06	3.60
Philadelphia.....	901,380	313	106	19.49	5.75	4.79	4.47	—
Brooklyn.....	566,689	253	102	34.78	28.46	18.58	—	1.19
Chicago.....	503,298	—	—	—	—	—	—	—
St. Louis.....	—	112	33	24.11	4.46	3.57	4.46	6.25
Baltimore.....	393,796	142	61	28.17	10.56	5.63	3.52	1.41
Boston.....	363,938	153	48	24.18	13.07	11.11	5.23	4.58
Cincinnati.....	280,000	80	26	10.00	3.75	15.00	2.50	—
New Orleans.....	210,000	121	34	19.83	—	4.13	1.65	4.96
District of Columbia.....	180,000	63	29	30.16	14.29	9.52	3.17	1.58
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	62	29	29.03	9.68	8.06	3.23	4.84
Buffalo.....	155,159	45	19	42.22	28.89	6.67	6.67	4.44
Milwaukee.....	127,000	52	25	30.77	9.62	5.77	3.85	1.92
Providence.....	104,862	34	6	20.59	—	14.71	5.88	5.88
New Haven.....	63,000	14	3	—	—	14.29	—	—
Charleston.....	57,000	22	6	13.64	—	9.09	9.09	—
Nashville.....	43,543	11	2	9.09	—	9.09	—	—
Lowell.....	59,340	21	8	9.52	—	14.29	4.76	4.76
Worcester.....	58,040	28	18	17.86	3.57	14.29	7.15	—
Cambridge.....	52,860	15	4	6.67	—	—	—	6.67
Fall River.....	48,626	27	14	14.81	3.70	3.70	—	3.70
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	18	7	27.78	16.67	16.67	—	—
Springfield.....	33,536	13	8	15.38	7.69	—	7.69	—
Salem.....	27,347	6	1	16.67	—	—	—	—
New Bedford.....	27,268	9	3	11.11	11.11	—	—	—
Somerville.....	24,964	4	1	25.00	25.00	—	—	—
Holyoke.....	21,961	6	2	33.33	33.33	16.67	—	—
Chelsea.....	21,780	5	2	40.00	40.00	—	—	—
Taunton.....	21,145	7	3	—	—	—	—	—
Gloucester.....	19,288	5	3	—	—	—	—	—
Haverhill.....	18,478	3	0	—	—	—	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	3	0	—	—	—	—	—
Fitchburg.....	12,270	6	2	—	—	16.67	—	—
Seventeen Massachusetts towns.....	132,955	43	12	23.26	11.63	6.98	6.98	—

Deaths reported 2279 (no returns from Chicago); 837 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 556, consumption 343, diphtheria and croup 267, lung diseases 247, typhoid fever 68, diarrhoeal diseases 60, scarlet fever 55, malarial fevers 53, small-pox 22, whooping-cough 15, cerebro-spinal meningitis nine, erysipelas six, measles one. From *scarlet fever*, New York 14, Baltimore 12, Pittsburgh seven, Milwaukee six, Philadelphia four, Providence three, Brooklyn six, Cincinnati, and Worcester two, St. Louis, New Orleans, and Nashville one. From *malarial fevers*, New Orleans 15, New York 11, St. Louis eight, District of Columbia seven, Brooklyn six, Baltimore three, Boston, Charleston, and Salem one. From *small-pox*, Philadelphia 22. From *whooping-cough*, New York six, Brooklyn two, Philadelphia, Boston, Cincinnati, Buffalo, Lynn, Brockton, and Milford one. From *cerebro-spinal meningitis*, New York, Philadelphia, and Fall River two, St. Louis, Milwaukee, and Lynn one. From *erysip-*

elas, Brooklyn three, New York two, Baltimore one. From *measles*, Milwaukee one.

One hundred and nine cases of diphtheria, 40 of scarlet fever, four of measles, four of typhoid fever, two of whooping-cough, were reported in Brooklyn; diphtheria 49, scarlet fever 20, in Boston; scarlet fever 32, diphtheria 22, in Milwaukee; diphtheria three, scarlet fever two, measles one, in Providence; scarlet fever five, diphtheria one, typhoid fever one, in Cambridge; diphtheria nine, scarlet fever five, in New Bedford. Measles very prevalent in all parts of Cambridge.

In 34 cities and towns in Massachusetts, with a population of 995,642 (population of the State 1,783,086), the total death-rate for the week was 19.54, against 18.83 and 19.53 for the previous two weeks.

For the week ending October 16th, in 140 German cities and towns, with an estimated population of 7,716,875, the death-rate was 22.9. Deaths reported 3399; 1704 under five: pulmonary consumption 461, acute diseases of the respiratory organs

221, diphtheria and croup 153, scarlet fever 105, typhoid fever 81, whooping-cough 44, measles and röteln 27, puerperal fever 14, small-pox (Königsberg, Schweidnitz) two. The death-rates ranged from 13.2 in Hanover to 33.7 in Danzig; Königsberg 27.3; Breslau 28.8; Munich 30.9; Dresden 19.1; Berlin 25; Leipzig 19.3; Hamburg 20.9; Bremen 18.1; Cologne 21.7; Frankfurt 16; Strasburg 25.2.

For the week ending October 23d, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.6. Deaths reported 3249: acute diseases of the respiratory organs 323, diarrhoea 159, scarlet fever 147, fever 59, measles

39, whooping-cough 39, diphtheria 22, small-pox (London) seven. The death-rates ranged from 17 in Birmingham to 33 in Leicester; Bristol 19; Sheffield and Leeds 20; London 22; Manchester 25; Liverpool 30. In Edinburgh 16; Glasgow 20; Dublin 33.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 20 deaths from diarrhoeal diseases, acute diseases of the respiratory organs 16, diphtheria and croup seven, typhoid fever three, scarlet fever two, small-pox two.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Oct. 31	29.510	51	65	40	100	64	66	77	S	W	W	12	25	15	R	O	F	8.30	.78
Nov. 1	29.938	48	59	33	61	32	51	48	SW	SW	W	8	8	9	C	F	F	—	—
" 2	30.195	43	54	37	81	34	58	58	W	NW	NW	6	10	4	C	C	F	—	—
" 3	30.465	43	53	33	70	58	76	68	NW	E	O	4	4	0	C	C	F	—	—
" 4	30.531	46	53	37	91	72	85	83	O	E	E	0	10	10	O	F	O	—	—
" 5	30.250	53	57	47	93	100	100	98	E	SE	SE	8	6	11	O	R	R	2.20	.17
" 6	29.910	59	64	56	100	100	94	98	S	S	SE	2	4	7	G	G	O	4.45	.12
Week.	30.114	49	65	33					S	SW	S							15.35	1.07

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

OBITUARY.

DR. AUGUSTUS TORREY died at Beverly, Mass., on November 1st, in the seventy-sixth year of his age. He was the son of Dr. Joseph Torrey, who was well known as a physician in Salem and vicinity for the first half of this century. He was a grandson of Rev. Manasseh Cutler, of Hamilton, and a descendant in the sixth generation of William Torrey, of Weymouth, who came from England in 1640. He was the youngest of five brothers, the eldest of whom was the late Joseph Torrey, D. D., president of Vermont University. Dr. Torrey was graduated at Harvard College in 1824, and from its Medical School in 1827, and settled in Beverly. He married, in 1834, Deborah Cox, a niece of Hon. Nathan Dane. The shock of her sudden death, a few weeks since, prostrated him, and he failed gradually, though retaining his consciousness till his death. Dr. Torrey was a member of the Massachusetts Medical Society, serving it with the best of his ability, especially as counselor. He was also a member of the Massachusetts Horticultural Society, and a frequent contributor to its exhibitions. He was a man of fine literary tastes and a skilled practitioner. He leaves two daughters and five sons, one of whom, Dr. S. W. Torrey, has for many years been a prominent practitioner in Beverly.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 6, 1880, TO NOVEMBER 12, 1880.

KING, WILLIAM S., colonel and surgeon. His leave of absence still further extended six months on account of sickness. S. O. 240, A. G. O., November 9, 1880.

WORTHINGTON, J. C., captain and assistant surgeon. Granted leave of absence for six months. S. O. 241, A. G. O., November 10, 1880.

BOOKS AND PAMPHLETS RECEIVED. — A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M. D. Fifth Edition. Philadelphia: Henry C. Lea's Son & Co. 1880. (A. Williams & Co.)

Contributions to Nervous and Mental Pathology. By Edward C. Spitzka, M. D.

Contributions to Encephalic Anatomy. By E. C. Spitzka, M. D. New York.

The Dangers incident to the Simplest Uterine Manipulations and Operations. By George J. Engelmann, M. D. St. Louis, Mo. (Reprint.)

Time of Conception and Duration of Pregnancy. Supplementary. By George J. Engelmann, M. D.

Walsh's Physician's Combined Call-Book and Tablet.

Walsh's Physician's Handy Ledger. A Companion to Walsh's Call-Book and Tablet.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States, for the Fiscal Year 1880. Washington: Government Printing Office. 1880.

The Orthopragms of the Spine. An Essay on the Curative Mechanisms applicable to Spinal Curvature. By Robert Heather Bigg. London: J. and A. Churchill. 1880.

Clinical Observations on the Radical Treatment of Fibroid Tumors of the Womb. By William Goodell, M. D. (Reprint.)

Lateral Lithotomy, with the Successful Removal of a Calculus and seven Pieces of Necrosed Bone from the Bladder of an Indian Scout, nineteen Months after the Reception of a Gun-Shot Wound. By J. M. Bannister, M. D. (Reprint.)

Lectures.

LECTURES, BOOKS, AND PRACTICAL TEACHING.¹

BEING AN INTRODUCTORY LECTURE TO A COURSE OF PRACTICE OF MEDICINE, 1877-78.

BY W. T. GAIRDNER, M. D.,

Professor of Practice of Medicine in the University of Glasgow.

A QUESTION which has been of late a good deal discussed in medical councils and societies has been this — Whether lectures, as compared with books on the one hand, and strictly practical studies on the other, have not been allowed to assume a too prominent position in medical education? Or perhaps it would be a more correct way of representing the views of some persons to say, Whether lectures (that is, oral instruction *ex cathedra*) be not an exploded and effete system, soon to be elbowed out, or displaced entirely, by the other methods just named? As one holding a commission to teach by lectures in this university a subject of the widest range, and of the most far-reaching practical importance to all of you; as one, moreover, who has for fully a quarter of a century had this problem constantly presented to his mind amid all the changing lights of experience, and amid the actual necessities arising out of the teaching of large classes of students, — not one of which many and varied groups of pupils has at any time appeared at all unwilling to be so taught, — I have thought that it might be not uninteresting to you, and certainly not unbecoming in me, to anticipate our course of instruction in the present session by a few words on this matter, and to point out its bearing on the serious business we have before us — the study of the practice of medicine.

I begin with one concession to the view that tends to look upon lectures as obsolete and effete. There have been, nay, perhaps, there still are, lectures of which it might very well be said that they encumber the curriculum of study. The whole processes and methods — I do not say of *medical* teaching only, but of the discipline of the human mind in almost every science and every art — have undergone immense changes even with the present generation, still more since the invention of printing made a great revolution in learning, and since modern inductive science carried the “dry light” of exact observation and experiment into every department of nature. In medicine, as in everything else, we simply cannot stand still, for stagnation is annihilation. If we have failed to accept the lessons of experience, and to adapt our teaching to the wants of the human mind, not to speak of the needs of the human body, in this nineteenth century of ours, then for us, truly, there is no room in a scheme of modern medical education. Call the instruction we pretend to give *lectures*, or call it what you will, it must be such as not only conveys to you the bare facts and doctrines of modern medicine, but such as is fitted to impress these upon your minds, and to inspire them with the spirit of modern medicine. Nay, I will go even further in the way of concession. It will not do for a lecturer merely to preach to or at his students nowadays, in

however elegant or appropriate words he does so. The end of a lecture (supposing that lectures are to continue to exist) is not to be attained merely by taking notes of it, and transcribing these or getting them by heart. I have, indeed, in my time, known and attended lectures which were nothing but articulate text-books; and of such lectures it might very well be said that they were neither better nor worse than text-books; or, if anything, worse, seeing that they cost the labor of listening and transcription, while the text-book is procurable for a moderate sum, in the very words of the author, and is always at hand for consultation. Of lectures constructed on this plan I am no apologist. They belong to the past, and may be justly considered as superseded in the present day, when text-books are abundant and good, and when the time of students has become valuable in consequence of the multiplication of subjects. It is impossible even to conceive, now, of a professor of physic after the type of the great Hermann Boerhaave, of Leyden, whose fame, in the earlier part of last century, filled Europe, and whose system of doctrines, widely propagated after his death by Van Swieten and others, may be said to have dominated the whole academic teaching of most of the greater universities, at least down to the time when Cullen occupied this chair in Glasgow, and afterwards the corresponding one in Edinburgh, that is, till the latter part of the century.² Between Sydenham, in the middle of the seventeenth century, and Cullen, at the end of the eighteenth, there is certainly no name whose authority can be compared with that of Boerhaave as an expounder of medical doctrine; and yet so great have been the changes in the interval that his voluminous works are now, to us of the present day, almost as antiquated as those of Galen, whom he greatly resembled in the character of his intellect, and also of his influence over the minds of men. The causes of this immense influence, as an historical fact, and of its nearly complete extinction, it would be tedious to discuss at present in such a way as to make them intelligible to you; but in general terms it is safe to say this — that Boerhaave was essentially what I have elsewhere called a *system-builder*; an eclectic and a genuine system-builder, it is true, equally removed from charlatanism and from one-sided enthusiasm, but still essentially a dogmatist, — that is, one whose influence as a teacher depended largely upon the acceptance of his fundamental doctrines, or *dogmata*, as regards the nature of disease in the abstract, its causes, and its cure. The aim of Boerhaave was obviously to build up a coherent and all but complete structure of preliminary doctrines or aphorisms, on which, as on an hypothesis, all the detailed investigation of individual cases or diseases was thereafter to rest. His method, therefore, was essentially that of the theologian; like that of Calvin in the Institutes, for example, or of Augustine in that great system of mediæval doctrine which was called Catholic, because it was supposed to be for all time and for every place alike, and which, in fact, has thus far corresponded with the title, that it was adopted in its main features and logical sequence by the Reformers no less than by the Church of Rome. The system of Boerhaave

¹ The previous lecture of Professor Gairdner which we published was received with so much favor, that we have yielded to urgent pressure that we should give place to another lecture by the same teacher, which, in point of fact, should have preceded that on Clinical Instruction. — Ed.

² Boerhaave was born in 1668, and died in 1738, having lectured on the Institutes of Medicine from 1701 onwards, and been elected to the chair of Medicine and Botany, at Leyden, in 1709. Cullen began to lecture on the Practice of Physic, in Glasgow, in 1751, and died in Edinburgh in 1790. His First Lines of the Practice of Physic was published in Edinburgh in 1777.

was eclectic; that is, it professed to be drawn from a comprehensive study of all previous doctrine in all ages, but especially in the immediately preceding age; it adopted freely whatever seemed to be well founded in the teaching of the mathematical (or rather mechanical) and of the chemical schools, and did not disdain the acknowledgment of its obligations to the past; but the ultimate end was to be a *system*, that is, a scheme of doctrine so absolutely true, complete, and logically coherent as to have a reasonable look of *finality* about it. Hence the very language of Boerhaave, and of all his school, has become obsolete, because men have ceased to think of disease in general, or of diseases in detail, in terms of his underlying hypothesis. Take, for example, the primary divisions of his classification: Diseases of a simple solid fibre; of a weak and lax fibre; of stiff and elastic fibre; of weak and lax viscera; of too strong and rigid viscera; from an acid humor; from a spontaneous gluten; from an alkaline cause, — all these are terms which convey absolutely no meaning, or scarcely any meaning at all, to a pathologist of the present day; and yet they are of the very essence of the doctrinal system of this great teacher, whose authority extended at one time from Vienna to the "*penitus toto orbe divisos Britannos*."

You will not, I trust, suppose me to be making these references to Boerhaave with the view of unduly depreciating one whose character and immense erudition, added to vast stores of personal experience, give him an ample claim to all the fame he acquired, and to a permanent and honorable place in the history of medical doctrine. My object is not to undervalue Boerhaave, but to show you wherein the modern spirit and method differ from his. Even in the middle of the eighteenth century such methods and systems as that of Boerhaave are already, to use a Darwinian phrase, a *survival* from the past; the great original masters of research, Morgagni, for example, are found to repudiate, or rather to set them aside almost without effort; they refuse to be bound by an hypothesis or by a system of doctrine, be the authority for it ever so eminent. Systems, it is true, continue to spring up; Stahl and Hoffmann divide the schools in opinion almost contemporaneously with Boerhaave, and system-building goes on, pretty steadily, up to the very close, at least, of last century, when it has, however, degenerated for the most part into a kind of discredited charlatanism; the pretentious systems of Brown and Hahnemann, for instance, being distinguished chiefly by their abnegation of all genuine science, and indeed almost unconcealed contempt for it. The aim of these theorists was to establish such a general series of postulates with regard to the origin of all diseases as should dispense with all knowledge in detail of the real facts; so that the treatment might be decided upon *a priori* considerations, almost without reference to experience. Even during the present century there have been more or less similar attempts, as those of Broussais in France, Rasori and others in Italy, to proclaim absolute first principles of disease and of its treatment; but in general it may be said that the characteristic of the period which includes the great names of Laennec and Louis, Abercrombie, Richard Bright, Addison and Stokes, Skoda and Oppolzer (to mention no more recent ones), has been a growing distaste for dogmatic assumptions and a growing reliance upon the absolute facts of experience, collected with all the aid of new methods of investigation, and submitted to a cau-

tious and searching, often a precise and numerical analysis.

I need not stop at this stage to explain the brilliant results of the modern era of investigation, as inaugurated by these and other great names, nor to insist on what has been done for us by the stethoscope, microscope, ophthalmoscope, thermometer, test-tubes, and other instruments of modern clinical research. These will be the very material, as it were, of the present course of lectures, and we need not anticipate by enlarging here upon the grand discoveries in diagnosis, and in medical practice generally, which have emerged during the last fifty years. What I have to insist on, however, is the change that has become necessary, as a result of these discoveries, in the method of conveying instruction.

I have said already, that in my opinion, no teacher or professor of the type of Boerhaave is ever again likely to attract the attention and occupy the mind of his generation as he did. We may rest assured that no system of medical doctrine will ever again be worth recording after the fashion of the aphorisms of this great man, illustrated in the lengthened and exhaustive Commentaries of his pupil Van Swieten, who tells us that he attended the lectures of his "great master, both public and private, for the space of nearly twenty years," in order to have the opportunity of reducing to order, and promulgating in their fullness, all the wise sayings of so great an authority. I fear it must be admitted that in these perhaps degenerate days so gigantic a task would be unavailing, were it even fulfilled, as regards the greatest of our professors, in a compilation as unwearied, exact, and, on the whole, as readable as that of this learned Hollander. And this, because no body of aphorisms whatever, "concerning the knowledge and cure of diseases," has any chance of enduring for twenty years without becoming in some important, and perhaps vital, points open to serious correction or revision; or perhaps antiquated altogether and obsolete. Within the last ten years, for instance, of our present experience, the whole doctrine of fever, of tubercular disease, of infection and contagion, to take only three examples out of a multitude, has been, and is, undergoing changes of which it may justly be said that we know not what an hour may bring forth. How is this body of floating doctrine to be crystallized into aphorisms, and endowed with what may be called dogmatic authority and stability by even the most energetic of professors and commentators?

Again, the application of the ophthalmoscope, the thermometer, the laryngoscope, the sphygmograph, and other graphic methods, to clinical research in various internal diseases, is at this moment rendering the most advanced text-books written even ten years ago comparatively valueless over a large field of medical observation. How are the aphorisms of any professor, if collected into a system such as is found in Van Swieten's Commentaries, to escape from the influence of "*tempus edax rerum*" for double that period of time?

Again, the researches of Drs. Fraser and Crum Brown, of Lauder Brunton, of Rutherford, Dewar, and M'Kendrick, seem to be not only introducing new remedies, but entirely new experimental data and principles for guiding us in the use of the oldest and most familiar remedies, amounting to a probable revolution in our existing science of therapeutics. How is the "cure of diseases" to be formulated in aphorisms, even

for a single generation, in the face of these facts? You have only to compare the first with the last edition of Sir Thomas Watson's famous and most admirable book, and to read carefully what is written in each edition on such subjects as the treatment of pneumonia, of diarrhoea and cholera, etc., to see that even short of what may be called the most unsettling novelties of modern doctrine in therapeutics, a period of twenty or thirty years is now equivalent to a revolution, or rather a series of revolutions, in all that may be taken for established doctrine in the treatment of some of the most important diseases. And in nothing is the reputation and character of that venerable physician more justly esteemed than in the remarkable and rare openness of mind which has enabled him to yield frankly and without any false pride of authority to the force of evidence, and to abandon successive positions which had become untenable, without thereby impairing in the least the regard that men have all along paid to his mature and highly cultivated judgment on those subjects on which he is still an authority of the first class, whereon a lifetime of carefully cultivated experience entitles him to speak to us in language as lucid as are the ideas from which it springs.

(To be concluded.)

Original Articles.

THE SIGNIFICANCE OF FREQUENT MICTURITION.¹

BY T. B. CURTIS, M. D.

FREQUENT micturition, or "irritation of the bladder," is a very common complaint, occurring in patients of both sexes and of all ages, but most often observed in adults. It is *never a disease*, but *always a symptom*; and, as such, deserves close attention and careful elucidation in every case.

The causes of unduly frequent micturition, which it is the object of this communication to set forth, or, rather, the diseases of which it may be a symptom, are very numerous and diverse. Of these diseases, some are local, others general. The former may concern the secreting organs, or the evacuating apparatus; the latter may involve the nervous system, or the digestive and nutritive functions of the body, and, through these functions, the crasis of the blood and the composition of the urine.

This short glance at the large field of causation before us gives an idea of the multiplicity and diversity of the morbid conditions to be passed in review in an attempt to establish the semeiotic value of over-frequent micturition. It is at once evident that the subject is one which interests equally the surgeon and the physician, for the diseases which are attended by this symptom, and which underlie its causation, are as often medical as surgical in character. Moreover, patients suffering from a form of the trouble calling for medical treatment are quite as apt to consult a surgeon as a physician; and patients with a disorder of a purely surgical character, demanding local surgical treatment, mechanical and perhaps operative, are not unlikely to place themselves under the care of a physician. It is therefore evident that the medical attendant, whether

physician or surgeon, should be prepared to discriminate between medical and surgical diseases giving rise to this symptom; and that, if not competent to treat a case lying outside of his own professional limitations, he should be able to ascertain, or at least to suspect, the character of the disorder before him, and to put his patient in the way of getting elsewhere the needful diagnosis and treatment.

This *desideratum*, however, is very far from being fulfilled in every case. No one who has much experience of urinary cases in practice can fail to be struck by the hap-hazard way in which a patient — suffering, may be, from some readily recognizable and easily curable disorder — will wander from one medical adviser to another, trying a great diversity of medicines, ending, possibly, with a despairing resort to some "safe kidney cure," or with the trial of a "liver pad" or electric belt, worn over the supposed site of the organ presumed to be at fault, and all the while, perhaps, without a correct diagnosis of the disease ever having been remotely approximated, — or even attempted!

Before entering upon our subject, it may be of advantage for us to recall, as briefly as possible, a few essential facts relating to the *physiology* of the function whose disturbances are to be considered.

Micturition, as every one knows, consists in the natural periodical evacuation of the bladder. The urine, which is essentially a watery solution of urea, serving to eliminate certain important products of disassimilation from the body, is secreted by the kidneys continuously, at the rate, in health, of about fifty ounces, or three pints, in every twenty-four hours, with considerable variations in quantity, depending chiefly upon the amounts of water passing off from the surfaces of the skin and respiratory mucous membranes. In damp and cold weather the quantity of urine secreted is greater than in warm and dry weather; and in diseased conditions this influence of atmospheric changes is often very keenly felt.

The bladder serves as a reservoir in which the urine is stored up during the intervals of micturition, until a sufficient quantity has accumulated to produce a slightly uncomfortable feeling of distention. As a general rule, the capacity and tolerance of the vesical reservoir, in health, are such that the organ has to be emptied from three or four to five or six times in the twenty-four hours, the amount which can be comfortably retained varying from six or eight to twelve or even sixteen ounces.

"When the bladder has become full," says Michael Foster,² "we feel the need of making water, the sensation being heightened, if not caused, by the trickling of a few drops of urine from the bladder into the urethra. We are then conscious of an effort; during this effort the bladder is thrown into a long-continued contraction of an obscurely peristaltic nature."

The neck of the bladder and the prostatic mucous membrane, according to Professor Küss³ of Strasburg, are the seats of a special and exquisite sensibility, which plays an important part in the physiology of micturition, both in health and in disease. Any irritation of this mucous surface, whether by the contact of liquids, of foreign bodies, or of instruments, gives rise

² A Text-Book of Physiology, by M. Foster, London, 1879, page 379.

³ Physiology, Professor Küss, American translation, Boston, 1875, page 476.

¹ Read before the Suffolk District Medical Society, October 30, 1880.

to sensations which are perceived almost exclusively in the form of urgent calls to urinate, and which, moreover, are transmitted as reflex motor stimulus, through the lumbar enlargement of the cord, to the evacuating apparatus of the bladder, the effect being to produce inhibition of the sphincteric or "cut-off" muscular fibres surrounding the membranous portion of the urethra, while, at the same time, the muscular layers of the bladder wall, and occasionally also the abdominal muscles, are stimulated to active contraction.

The desire to urinate being thus experienced, the obstacle residing in the reflex *tonus* of the sphincter being raised, and the expulsive forces, both of the unstriated involuntary muscular fibres of the bladder and of the voluntary abdominal muscles, being brought into play, the urine makes its escape from the distended reservoir. As the contained bulk of liquid diminishes, the bladder walls become less tense, and soon the unstriated muscular fibres entering into their composition, having reached the limits of their contractile power, cease to contribute to the further compression of the vesical contents. Then the part played by the intra-abdominal tension, resulting from the *tonus* of the parietal abdominal muscles, or due to their more or less energetic contraction, acting upon the bladder through the superincumbent mass of the intestines, becomes the predominating agency of evacuation. The vesical walls no longer close in centripetally upon their contents from all the points of their periphery, but the dome-shaped roof of the bladder collapses under the pressure exerted from above, just as a foot-ball flattens out between the hands when the vent-hole is open. The evacuation thus effected is so complete, with healthy organs, that not only the last drops of urine, but even a few bubbles of accidentally admitted air, are unfailingly expelled. Such is the manner in which the healthy bladder empties itself when full.

Let us now consider the numerous diseased conditions in which the apparatus and mechanism thus summarily described are liable to derangements leading to a necessity for unduly frequent evacuation of the urinary reservoir. In the exposition of the details, a certain method must be observed, without which the subject would become involved in hopeless and inextricable confusion.

The causes of increased frequency of micturition may be divided into two great categories: the first comprises the various disturbances of the retaining and evacuating apparatus which interfere with the functions of the bladder as a reservoir requiring periodical evacuation at fairly long intervals; while the second category comprehends the cases in which the undue frequency results from a considerable increase of the quantity of urine to be disposed of.

A. *The disturbances of the retaining and evacuating apparatus* are of two distinct kinds: one class of cases being characterized by diminished ability of the bladder to *evacuate*, the other by diminished ability to *retain*, its contents. Let us consider successively these two classes of disturbances.

I. *Inability to empty the bladder*, constituting the frequent and serious disorder called *chronic partial retention*, most commonly results from the presence of some permanent obstruction to the exit of urine, caused by urethral stricture or by hypertrophy of the prostate; it may, however, also be due to an impairment of the expulsive forces, such as results from paraplegia, or from

vesical atony consequent upon over-distention of the bladder.

The most frequent cause of chronic partial retention being *obstructive hypertrophy of the prostate*, I will describe briefly some of the characteristic features of this very common and distressing malady. The age at which the disease becomes developed is about sixty years. Sir Henry Thompson, with all his experience, has never met with it until after the age of fifty-four. With regard to the frequency of the disease, he found, by the examination of about two hundred bodies of male patients over fifty-five years of age, that about one in every three exhibited some enlargement of the prostate; only one in about every seven, however, having had any symptoms of obstruction, slight or severe. He infers from his researches that only one in every fifteen or twenty men who reach their sixtieth year is liable to need treatment for this affection. Prostatic obstruction may be suddenly complete; but most commonly the beginning of the disorder is gradual and insidious, the first and only sign for a long time being an increased frequency of micturition, due to the fact that only a portion of the vesical contents is evacuated at each passage of water. A characteristic feature of these cases consists in the fact that urination takes place more often by night than by day, in consequence of an increased nocturnal activity of the kidneys, as observed in several other forms of polyuria, to be spoken of later. In addition to the vesical irritation, which may hardly be sufficiently marked to arrest the attention of the patient (though often he complains grievously of the loss of rest occasioned by the frequent calls to pass water at night), other disturbances, of a remote and misleading character, first noticed, I believe, by Trousseau,¹ may constitute the earliest and most conspicuous results of the habitual stagnation of urine. The patient suffering from chronic partial retention due to prostatic obstruction may first be led to seek medical assistance on account of certain disorders apparently dependent upon, or suggestive of, dyspepsia; such as loss of appetite, dry and red tongue, with or without thrush, emaciation, fits of nausea and vomiting, derangements of the bowels (constipation or diarrhoea), together with repeated headaches, occasionally hemicranial. This form of *urinary dyspepsia*, as it is called by Professor Guyon,² who first described it fully, can be remedied only by the removal of the underlying cause: in other words, by relieving the partial retention by means of the habitual use of the catheter. The diagnosis of obstructive hypertrophy of the prostate can be made sure only in one way, namely, by testing the ability of the bladder to empty itself by natural micturition. If the patient, having reached the age of fifty-five years, suffers from unduly frequent urination, especially at night, when quiet in bed, it may fairly be suspected that his troubles are due to prostatic obstruction, entailing partial retention. A digital examination of the prostate by the rectum, commonly considered indispensable to diagnosis in such cases, can throw little or no light upon the nature of the trouble, as Civiale³ has shown, for a degree of hypertrophy inappreciable by this test may suffice to cause complete obstruction, while the most extreme degrees of enlargement may not only fail to prevent the bladder from

¹ Clinique médicale de l'Hôtel Dieu, A. Trousseau, Paris, 1868, vol. iii, p. 29.

² Revue mensuelle de Médecine, etc., Paris, January and February, 1878; also in the JOURNAL, April 4, 1878, page 441.

³ Civiale, Maladies des Organes génito-urinaires, Paris, 1838, vol. ii, p. 226.

emptying itself, but, in certain very exceptional cases, may even cause a true incontinence with empty bladder. Therefore, the diagnostic and only conclusive test consists in the introduction of a catheter (preferably a soft rubber or Mercier gum catheter) into the bladder immediately after full attempts at complete natural micturition on the part of the patient. The presence of residual urine, or "back-water," under these conditions justifies the suspicions of the physician, and settles his diagnosis and treatment. In every case of otherwise unexplained irritation of the bladder, occurring in a man of a suitable age, this test should be resorted to as the only means by which a correct diagnosis and an efficient treatment can be attained.

II. *Inability to retain urine*, or diminished retentive power, on the other hand, constituting *vesical incapacity*, operates as a common cause of unduly frequent micturition. Such incapacity may be physical or functional.

(1.) *Physical incapacity* consists in a diminution of the capacity of the bladder, rendering impossible the accumulation of ordinary amounts of urine. Such a condition may be observed, on the one hand, as a result of inveterate chronic cystitis, eventuating after years of continuance in a fibroid transformation which renders the vesical walls incapable of distention; or, on the other hand, it may be due to pressure exerted upon the bladder by some neighboring organ or growth, such as a gravid or displaced uterus, or an abdominal tumor.

(2.) *Functional incapacity* is one of the most common forms of vesical irritability. Owing either to an abnormal sensitiveness and impatience of the retaining apparatus, or to an unduly irritating quality of the urine, the bladder is urgently stimulated to expulsive efforts by the presence of small quantities of liquid, and a condition of irritation or "intolerance," culminating in vesical tenesmus, may ensue.

(a.) The diseases of the retaining and evacuating apparatus causing functional incapacity, consist in affections of the bladder and prostatic urethra, either inflammatory or neurotic in character. It may be useful to recall here that the prostatic urethra, whether in health or in disease, is functionally a part of the bladder, being situated behind the true vesical sphincter, and serving as the sensitive origin of the reflex motor stimuli by which the functions of the bladder are regulated and brought into play; hence the name of "neck of the bladder," by which this first portion of the urethra is sometimes called.

The *inflammatory affections* of the bladder and of its neck causing vesical irritation comprise all the forms and degrees of cystitis, prostatitis, and cysto-prostatitis, acute and chronic, however originating. The causes and the corresponding forms of disease are exceedingly multifarious, the most important being the following: idiopathic cystitis, due to cold or to lithæmia (Spencer Wells, Garrod, Murchison); calculous cystitis; retentive cystitis, resulting from chronic stagnation or over-distention, and due to stricture of the urethra or meatus, or to obstructive prostatic hypertrophy; tubercular cystitis, occurring as one of the localizations of genito-urinary tuberculosis (the latter constituting an occasional exception to the well-known law of Louis, according to which tubercle exists in the lungs if elsewhere). Prostatitis or cystitis of the neck of the bladder, attended by extremely frequent micturition or by painful and distressing tenesmus,

may exist without implication of the vesical mucous membrane proper, as a result of the retrograde extension of gonorrhœal urethritis. In all these inflammatory affections of the bladder and prostatic urethra over-frequent micturition is produced in the same way, namely, by the pain resulting from commencing distention of the inflamed bladder walls, and by the morbidly heightened sensibility or hyperæsthesia of the inflamed prostatic mucous membrane.

The *neurotic affections* of the retaining and evacuating apparatus which occasion functional incapacity of the bladder comprise all the various forms of cystalgia, cystodynia, or neuralgia of the vesical neck, whether idiopathic (that is, inexplicable), resulting from onanism,¹ or symptomatic of diseases of the nervous system, such as hysteria, locomotor ataxia, etc. A few details in relation to some of these forms of vesical irritation may be of interest.

It is questionable whether a truly idiopathic cystalgia exists. The distinguished Austrian surgeon, Von Pitha,² in 1875, described himself as having then been afflicted for two years with a cystalgia, which so closely simulated stone in the bladder that he was actually sounded for stone five times. For several years he suffered, as he relates, from "the most excruciating eccentric neuralgiæ, which, with these exception of the head, neck, and back, affected in turn every part of the body." He experienced "the most violent boring pains." Then, he says, "the pain darted off to the pelvic region, affecting the bladder, especially its neck, and then the entire urethra,—producing the exact sensation of a heated wire being passed along it into the bladder." A severe paroxysmal neuralgia at one time affected the heel. Later, he adds, omalgia, cystodynia, proctalgia, and neuralgia, intercostalis, ulnaris, ischiadica, peronea, cruralis, and digitorum manus et pedis, tortured him one after another, and often several simultaneously,—sometimes only for a short time, and at others for days together,—causing an amount of suffering that was difficult to endure, and altogether insupportable without the assistance of injections of morphine. Von Pitha died at the close of the year 1875, not long after the publication of the account from which the above extracts are borrowed. His graphic description of the very painful paroxysmal neuralgiæ and of the vesical paroxysms from which he suffered so acutely recalls strikingly the early stages of locomotor ataxia, characterized by the well-known lancinating and boring pains, and by the distressing "vesical crises," so often observed in that insidious disease, and so elaborately described by Vulpian, Charcot, Trousseau, Erb, and others, as constituting, together with sudden attacks of rectal pain or tenesmus, forms of the "visceral crises" of paroxysmal pain. In hysterical females, also, attacks of cystalgia, with vesical irritation or tenesmus, are occasionally observed.

(b.) The last form of functional incapacity or vesical irritability to be mentioned is that which is due to no fault of the retaining and evacuating apparatus, but to an *abnormal condition of the urine*, in consequence of which this fluid irritates the bladder, and stimulates it prematurely and with undue frequency to evacuate its contents. Such alterations of the urine may occur as results of certain constitutional diseases or *dyscrasias*, or as symptoms of renal inflammations.

¹ See Baker Brown on the Curability of Certain Forms of Peripheral Irritation, etc., London, 1866.

² Medical Times and Gazette, September 25, 1875, page 358.

The *dyscrasia* alluded to as causes of over-frequent micturition are those in which the urine contains an excess of certain ingredients, imparting to it an unduly irritating quality. Such is not uncommonly the case in lithæmia or gout, the excessive acidity of the urine and the abundant precipitates of uric acid, urates, or oxalate of lime having the effect of stimulating the bladder to over-frequent evacuation, as stated by Todd, Spencer Wells, Charcot, Draper, and many others. So, also, in another condition, dependent upon an obscure form of dyspepsia, in which the urine, being deficient in acidity, neutral, or even alkaline, is rendered turbid by the precipitation of the amorphous phosphates, unduly frequent calls to urinate occur, as recently described by Dr. Ralfe.¹ This functional disturbance of the bladder, together with the cloud in the urine, produced by boiling and due to the precipitation of the phosphates, and also the whitish sediment, resembling pus to the naked eye,—all these familiar symptoms not uncommonly cause cases of this description to be mistaken for renal disease or cystitis. The vesical irritation, however, is but slightly marked; the morning urine is apt to be clear, the turbidness and sediment being chiefly observed in the day-time, during the process of digestion. In doubtful cases a microscopical and chemical examination of the most elementary kind would be immediately conclusive.

The *renal inflammations* which communicate to the urine a quality rendering it irritating to the bladder, and thus occasioning undue frequency of micturition, are chiefly acute parenchymatous nephritis and pyelitis.

Acute parenchymatous nephritis, or acute Bright's disease, at its first onset is often attended for a few hours, or during the first day or two of its duration, by excessively frequent calls to urinate, so urgent and so distressing as to simulate an attack of acute cystitis (Roberts, Charcot, Lecorché, Bartels). *Pyelitis*, also, whether acute or chronic, idiopathic, due to cold, retentive, calculous, or tubercular, is very commonly accompanied by unduly frequent micturition, occasioned by the irritating quality of the purulent urine sent down from the diseased pelves to the bladder. This fact, vouched for by many authorities, among whom I will mention only Rayer,² is set forth with useful emphasis by Van Buren and Keyes³ as follows: "One symptom of pyelitis is very liable to lead to error of diagnosis, especially if the pain in the back has not been prominent and no tumor exists in the flank. This symptom is frequent micturition. The irritating properties of the pus in the urine stimulate the bladder to repeated contractions, and many a case of pyelitis has been treated as chronic cystitis, powerful injections being thrown into the bladder in the vain hope of controlling the formation of pus, which is supposed to have its origin there."

The recognition of pyelitis is often difficult, the diagnosis being based, in many cases, only upon presumptions, more or less strong. The first step towards a correct interpretation of the symptoms in any given case consists in suspecting the possible existence of pyelitis. The next step consists in eliminating apparent disease of the bladder in cases of simple primary pyelitis, or in correctly allotting to each disorder its characteristic signs in complicated cases, where the pyelitis is secondary to some other urinary disease,

such, for instance, as a chronic catarrh of the bladder. In simple cases of pyelitis we must avoid being misled by the functional disturbance of the bladder into taking for granted, without further inquiry, that we have to do with a mere cystitis. This too common error will perhaps be avoided if we consider carefully the course of the symptoms: noticing how, in spite of the long continuance of the disorder, the urine, though purulent and perhaps, also, at times bloody, remains acid,⁴ and free from the ammoniacal fermentation which is the rule in chronic catarrh of the bladder, especially when occurring in females. Micturition, though unduly frequent, is not very painful; and an examination of the bladder and urethra shows the absence of all organic diseases capable of originating and perpetuating a cystitis. Then, too, a circumstance which in some cases is not without significance is the entire failure of all means of treatment directed against the supposed catarrh of the bladder. Sooner or later paroxysmal pyrexia in the form of chills and fever occurring mostly in the evening, are commonly observed, and in themselves afford strong presumption of advanced pyelitis. Still later, pain and tenderness, and, above all, a swelling in the loin or flank, are conclusive evidence of renal disease, showing the existence of pyonephrosis or perinephritis.

In complicated cases the symptoms of pyelitis may be more or less obscured or masked by those of the other coexisting affections of the urinary tract, especially when chronic disease of the bladder exists. The diagnosis may then be very difficult or even impossible, as Sir Henry Thompson⁵ has shown at length in a clinical lecture On the Influence of Renal Disease in the Choice of Operation for Stone, written in defense of his management of the case of Napoleon III. A correct and complete diagnosis in such cases is of the highest importance for prognosis, since the success of all operations upon the bladder or urethra, whether for stone or for stricture, whatever operative method be employed, is strictly and almost exclusively dependent upon the degree to which the kidneys and pelves are implicated. Operations for stone or for stricture scarcely ever prove fatal unless the condition known as "surgical kidney," consisting in an inveterate suppurative pyelo-nephritis, be present. Nevertheless, however valuable a correct knowledge of the condition of the kidneys would be in such cases, we are generally forced to content ourselves with presumptions based upon the long duration of the primary disorder and the general condition of the patient. Among the most ominous signs of deep-seated mischief are polyuria, urinary dyspepsia, and a liability to chills and fever, occurring with or without apparent cause.

B. We have passed in review the various forms of frequent micturition dependent upon disturbances, functional or physical, of the retaining and evacuating apparatus, and we now have to consider the second of our two leading categories, embracing all the cases in which the overfrequent passage of water results from an excessive secretion of urine, causing the bladder to become too rapidly distended in the short intervals of micturition.

Polyuria, consisting in the overabundant secretion of urine, is observed in several distinct morbid conditions. It may occur as the first and most prominent

¹ See the *Lancet*, July 17 and 24, 1880, pages 86 and 127.

² Rayer, *Maladies des Reins*, Paris, 1841, vol. iii. pp. 92, 93.

³ Van Buren and Keyes, *Genito-Urinary Diseases*, etc., New York, 1874, page 365.

⁴ See *Urinary and Renal Diseases*, by Wm. Roberts, Philadelphia 1879, page 471.

⁵ *Clinical Lectures*, by Sir Henry Thompson, London, 1879, page 214.

symptom of diabetes, whether saccharine or insipid. It may result from renal disease, being dependent either upon a chronic interstitial nephritis, or upon an amyloid degeneration of the kidneys. Lastly, the polyuria may be due to a little suspected and only lately recognized agency, namely, to a chronic mechanical irritation of the vesical mucous membrane.

I. *Diabetes*, when of the saccharine, mellitic, or glycosuric form, offers well-marked symptoms, and is hardly likely to remain long undetected. The insipid form, characterized almost exclusively by a simple polyuria, occurs more rarely, and is a less familiar disease to most practitioners. One of the features which distinguish this form of chronic idiopathic polyuria from the symptomatic forms still to be considered is the presence of abnormally large quantities of urea in the overabundant pale urine of low specific gravity. According to Dickinson, Lecorché, and other authorities, diabetes insipidus resembles saccharine diabetes in the excessive elimination of urea which takes place, the daily total quantity of this substance being often as much as three or four times the normal amount. In the other forms of polyuria, dependent upon renal or vesical disease, the reverse is true, the amount of urea being mostly below the normal.

Of the renal diseases accompanied by polyuria and frequent micturition, the most important is *chronic interstitial nephritis*, otherwise known as renal cirrhosis, granular or contracted kidney, or simply as chronic Bright's disease. It cannot be necessary that I should here do more than allude to this very common malady, save to lay stress upon the marked and annoying polyuria which attends its onset and accompanies it nearly to its fatal termination. An abundant flow of pale urine of low specific gravity, more copiously secreted by night than by day, and compelling the patient to rise from bed several times, is in some cases almost the only disturbance complained of for a long period. Albumen and casts may fail to be observed at all, unless the urine is examined with much care and frequency; in fact, the disease may proceed to its termination in cerebral uræmia without these supposed pathognomonic signs ever being detected, as was the case with a patient under the care of Bartels.¹ Dropsy also may be absent, or if present it occurs in a slight degree, and only in the last stages of the disease. Cases exist in which the other disturbances upon which the diagnosis may be based, — namely, the antecedent signs of gouty dyspepsia or lithæmia, the enlargement and functional disorders of the heart, and the symptoms dependent upon increased arterial tension, — are so slightly marked as to cause the disease to pass for diabetes insipidus. Bartels records several instances, in one of which the daily secretion of urine amounted to six litres in twelve hours; in another the quantity voided in twenty-four hours was seven and a half litres.

In the disease known as *amyloid or lardaceous degeneration* of the kidneys, occurring as a complication or sequel of certain constitutional diseases (scrofula, tuberculosis, syphilis), or succeeding long-continued supuration, a polyuria resembling that of chronic Bright's disease not unfrequently exists, unless there be a profuse diarrhoea. In such cases the antecedents, together with the various other localizations and manifestations of the amyloid degeneration, cannot fail to cause the true condition to be recognized, provided

only that the attention and suspicions of the physician are aroused and exerted in view of a complete and careful diagnosis.

Yet one more form of symptomatic polyuria remains to be considered, namely, that which accompanies and results from *chronic irritation of the bladder*. Professor Guyon, of the Necker Hospital in Paris, and his pupils, Jean¹ and Masson,² have called attention recently to the frequent occurrence of a superabundant flow of urine, complicating the sufferings of patients affected with stone in the bladder, prostatic obstruction, stricture, or tuberculous cystitis. In all these cases the pathological physiology of the polyuria is the same. In conformity with a well-known physiological law, according to which all irritations of excretory ducts stimulate the corresponding secreting gland, so in such cases the chronic irritation of the bladder causes an excessive flow of urine, just as a foreign body in the conjunctival mucous membrane excites lachrymation. The polyuria so caused is most abundant and troublesome at night, except when due to the presence of a vesical calculus.

The most common cause of this reflex polyuria, resulting from irritation of the bladder, is obstructive hypertrophy of the prostate, with chronic partial retention of stagnating and perhaps decomposing urine. The diuresis is occasionally very profuse, especially at night, constituting a grievous addition to the sufferings of the patient. It may be interesting and instructive, now, to rehearse all the complex conditions which, by increasing the frequency and urgency of the calls to urinate, conspire to harass and torture a patient afflicted with chronic prostatic retention. In the first place, he fails to empty his bladder, and, being able to expel at each passage of water only a portion of the vesical contents, the evacuation of the total urine of every twenty-four hours is subdivided into an increased number of acts of micturition. Secondly, the chronic irritation of the bladder caused by the stagnating residual urine occasions a reflex diuresis or polyuria, chiefly nocturnal, which may be so marked as to simulate diabetes insipidus. Thirdly, inflammation of the bladder walls, sure to supervene, sooner or later, becomes permanent, and by entailing a condition of functional incapacity, lessens the already small margin between the retaining and the evacuating power of the urinary reservoir. Prostatitis, acute or chronic, may singularly exasperate the sufferings of the patient by adding a ceaseless and painful tenesmus to the vesical irritation already experienced. Lastly, in the ultimate stage of this most distressing and incurable disease, the condition described as contracted bladder, with physical incapacity, establishes itself, as a consequence of the long-standing cystitis. The bladder is then converted into a small pouch, with thick, rigid, undilatable walls, incapable of either retaining or evacuating its contents. Fortunately, death does not long delay when this stage is entered upon.

Such, hastily passed in review, are the chief causes of unduly frequent micturition. It is evident that this conspicuous and annoying symptom, which hardly ever fails to be promptly noticed and complained of by the patient, may be dependent upon a great number of ex-

¹ Dr. Alfred Jean, De la Rétention incomplète d'Urine, etc. Paris, 1879.

² Dr. Noël Masson, De la Polyurie dans quelques Affections chirurgicales des Voies urinaires, Paris, 1878. See, also, the JOURNAL, April 1, 1880, page 316.

¹ Ziemssen's Cyclopædia, American Translation, New York, 1877, vol. xv. page 440.

ceedingly diverse disorders; and that the exigencies of a correct diagnosis are complex and often embarrassing. Cases occur where it is by no means easy, even for a medical man, to decide whether the physician, the surgeon, the gynecologist, or the neurologist should be consulted. Under these circumstances, the patient of course is very liable to go astray in his attempts to guess the seat and nature of his malady and to select a suitable adviser. Considering, once more, certain of the urinary diseases entailing a necessity for unduly frequent micturition, we have seen that an affection of the bladder, by engendering a reflex polyuria, may simulate renal disease or the insipid form of diabetes; while a disease of the kidney or pelvis, such as acute nephritis or pyelitis, may occasion a functional disturbance of the bladder sufficiently marked to cause both patient and physician, without hesitation, to attribute the sufferings experienced to cystitis. Is it not evident that we have here a field, as it were imperfectly allotted, lying between the boundary lines of medical and surgical practice; and that it would be far better for all concerned if mutual encroachments should cause these two domains to overlap instead of remaining separated by a wide and deep hiatus?

From the foregoing facts and considerations this practical conclusion is to be drawn: that, as said at the outset, unduly frequent micturition is never a disease, but always a symptom. It should never be regarded merely as an infirmity, to be palliated by anodynes, or to be acquiesced in as an inevitable accompaniment of advancing years. On the contrary, it should in every case, receive attention as a *significant symptom*, indicating the existence of some disorder which calls for careful elucidation and appropriate treatment.

THE "ABDOMINAL METHOD" OF SINGING AND BREATHING AS A CAUSE OF "FEMALE WEAKNESSES."¹

BY CLIFTON E. WING, M. D.

THE following cases, all happening under observation within a comparatively short time, have seemed to me sufficiently interesting to warrant their publication. The calling of attention to a possible danger that, as a rule, is not suspected or dreamed of by singers or their instructors may lead to the use of the ounce of prevention which in the case of uterine troubles is often worth much more than the pound of cure. At the present time so many of our young women are practicing, and so many instructors are teaching, singing (and in courses in elocution breathing) by what is termed the "abdominal method" that the matter is not without importance.

CASE I. The first patient was a young unmarried lady, a resident of this city, who had previously enjoyed excellent health. Eleven months before she consulted me she began to suffer with pain in her back and sides, "bearing down," and, with these local symptoms, great depression of spirits. At about the same time her menses, which previously had come regularly each four and a half weeks, became more frequent and profuse. She found that occasionally after walking her symptoms were aggravated. For three months she had been troubled with frequent desire to pass water. She suffered with constipation, and movements of the bowels were at times painful.

¹ Read before the Boston Society for Medical Improvement, at its meeting, November 22, 1880.

The lady had come to consult me because, as she said, she felt sure, from having heard from other sufferers with uterine troubles their symptoms, that she had the same trouble herself. Upon my asking what she thought could have induced such a difficulty, she at once replied that she felt certain that she had injured herself by singing by the "abdominal method," which she had taken much interest in and had practiced a good deal; that from the first it had made her feel badly, when she had previously been well; that, finding she always was worse after singing, she gave it up for a while, when her symptoms at once improved and menstruation became less frequent; that, getting better, and thinking that, perhaps, after all, her singing exercises had had little to do with her past symptoms, she again resumed them, when her troubles returned, and she finally became worse than ever. She ended by asking me if I did not think she was right. Knowing nothing about singing, and not really understanding what she meant by the "abdominal method," I did not express a decided opinion. In fact, I gave little attention to her idea. Proceeding to make my examination, I found a well-marked displacement of the womb, that organ being thrown completely backward.

There is nothing particularly instructive in the further history of the case. A prolapsed ovary gave considerable trouble in the fitting of a comfortable supporter, but there were no adhesions; the parts were finally replaced, and the uncomfortable feelings in the back of the neck and the top of the head, and, as the patient expressed it, "the total inability to think properly," which were at times marked, as often (although not always) is the case with uterine ailments, were greatly relieved. For a time the patient could scarcely believe that the improvement in her mental feelings was all due to improvement in the local condition; but when, not long ago, she dispensed with her supporter for a while, with the result that the womb again fell backwards, with a return of all the head symptoms, which again disappeared with the readjustment of the pessary, she became convinced.

CASE II. The lady was thirty years old, and had been married seven years. Never pregnant. Menstruation, which was established at the age of thirteen, before marriage had always been painful. Since her marriage she has been free from pain at those periods. She consulted me the first time for leucorrhœa and local irritation, which I judged from her story to be due to a simple inflammation of the vagina. She at this time had no marked uterine symptoms, and I did not deem an examination necessary, but prescribed some simple injections, telling her if she did not get better in a short time I would then investigate the case more thoroughly. In a few days she reported herself as so much relieved that she thought further treatment unnecessary. I did not see her again, professionally, for about five months, when I was called to the house, and found her in bed, suffering with acute pain in the small of her back and across her hips, and unable to stand, walk, or even move in her bed without increasing her sufferings. Making a uterine examination, I found the womb turned backward toward the hollow of the sacrum, pressed low down in the pelvis, acutely congested, and very tender. There was no inflammation in the neighborhood.

Here, again, I was asked if "abdominal singing" could have produced the displacement, and, on inquiring into the matter, learned the following story: The

lady had been taking instruction in singing for some months. Hearing of another teacher who was said to be remarkably good, and to have a "new method," she had gone to her, taking her first lesson on the previous Friday (I was called to see her on a Monday morning). She had gone to the teacher, according to directions, wearing no corsets, that she might be free to go through the necessary movements and manipulations. After the lesson she went home, feeling "dreadfully" in the pelvic region, but never for a moment supposing that she could in this way do herself serious harm, she repeated the exercises on the next day, after which she felt still worse, and taking a horse-car home was scarcely able to get from the car to the house, on account of the pain in her back and sides, "bearing down," and "feelings as though she was coming to pieces." Symptoms such as these she had never before experienced. She immediately took to her bed, where she remained up to the time that I saw her. The parts were replaced and a supporter fitted. The patient wore it for a few months, after which it was dispensed with. I recently met her, and she told me she remained perfectly well. It was lucky for her that her symptoms were so acute at the outset, for had the case not received the early attention which it did she would not have been able to do without the supporter so soon. It is unnecessary to add that she has not resumed the singing exercises.

CASE III. Miss B., aged twenty, single. Menstruation began at fifteen, and always is pretty regular. Time of flow, four days. Amount normal. Has always had some pain the first day when unwell, but lately the pain has been getting worse, and has lasted longer. For some months she has noticed that she has not been able to walk as she formerly could without getting tired out. Lately she has had pain across the abdomen and low down in each side, and has been unable to sit any length of time without a severe pain in the back, which latter pain makes it difficult for her to rise after having been seated, and is always worse when she is unwell or after she has walked any distance. Suffers with constipation. Micturition not especially troublesome. Is "depressed in spirits."

Six months before seen she began a course of instruction in singing by the "abdominal method." At this time, as she states, she was in excellent health. At about the time she began the method she was warned by the lady whose case is the first one I report, with whom she was acquainted, to be careful and not injure herself, as she had done, and this friend even went so far as to see her teacher and ask her to take especial care to prevent such a result. The latter, although she did not believe such harm could result from these singing exercises, undoubtedly was as careful as she could be. Under the course of instruction the voice was thought to be decidedly improved, and it became much more powerful. (A like result was noticed in the case of the first patient.) Her progress, so far as the singing was concerned, was eminently satisfactory, and she was told that she had "got the method right;" but soon after she entered upon the course her local symptoms began to appear, and they grew gradually worse, until she was so poorly that she deemed it best to take medical advice. On uterine examination I again found a complete displacement of the womb backward.

I asked the patient, who was quite positive as to what had brought on her trouble, if she could not

think of some cause other than her singing. She replied that she could think of nothing else. She had noticed that she always felt worse after singing, and lately it had really hurt her each time.

I fitted a proper supporter, which the patient is still wearing. She is now feeling quite nicely. Recently, as an experiment, she sang a little, when her old symptoms again began to show themselves.

CASE IV. The fourth case is of value here as evidence in the same direction. The patient was seen by me in consultation with a physician of this city, who had recently been called in, and who requested me to assume the case. The lady was twenty-three, married, and the mother of two children, the youngest eighteen months old. She was having backache, "bearing down on walking," "pain in the womb," etc., etc., which were easily accounted for by the large, congested, tender, "sagging uterus" found on examination. Under appropriate treatment she was getting along nicely, and had become quite free from pains and aches, when one day, at my office, she said she wanted to ask me a question, which was this: "Doctor, can I do myself harm by singing? Is it possible for any one to cause uterine trouble in that way?" Rather surprised, I asked her if she had heard so. She replied that she had never heard the subject mentioned, but was disposed to think so because, having recently sung, a thing she had not attempted before for a considerable time, she had noticed that "bad bearing down" followed. Asking what method she used in singing, the reply was, "The abdominal method."

I would call attention to the fact that each of these patients, of her own accord and without my having suggested the idea, advanced the opinion that the singing had caused the troubles. Indeed, until the cases repeated themselves, knowing nothing of the method in question, I was not disposed to adopt their opinion.

Becoming interested in the matter, I applied to Dr. S. W. Langmaid, of this city, thinking he would be able to give me the information I desired, and he has kindly permitted me to publish the following contents of his letter in reply:—

"I have no doubt that injuries such as you describe have been produced by attempts at 'abdominal' (diaphragmatic) respiration.

"I have known the digestive functions disturbed, pain and soreness in various parts of the abdomen produced, and, in one case, the occurrence of prolapsus uteri brought about during the act of attempting to use the abdominal method of breathing in singing.

"The injuries result, not from properly conducted abdominal respiration, but from a wrong method of using it and a misconception of its legitimate use and limit. Such misconception is common enough among singing teachers and their pupils.

"Abdominal respiration gives the singer the greatest control of the column of air to be used in vocalization. If, however, the proper action of the muscles (relaxation) during inspiration does not precede the respiratory effort (contraction), the contraction is not only productive of imperfect sounding processes, but may be the cause of the injury to organs which are so situated as to be influenced by the pressure exerted by the contraction.

"The tendency of the abdominal walls to return to a normal position, out of which they have been carried during inspiration, is sufficient to regulate the flow of air during ordinary singing. A forced contraction re-

sults in an increased blast of air, which is needed to give greater intensity to tone.

"The common fault consists in the attempt to contract from an already retracted abdominal wall, the inspiration having been limited to a superficial thoracic ('clavicular') respiration. If, now, there is added the restrictive action of a close and unyielding corset, any of the movable organs in the abdomen or pelvis must yield to the *vis a tergo* of the abdominal contraction. *A priori* with regard to the effect upon the uterus, retroflexion or retroversion would be the common form of displacement, unless a tendency to prolapsus existed."

Lately I have talked with a number of ladies, and have been surprised to find how many of those acquainted with the subject, on my mentioning the matter to them, have at once said that they had no doubt whatever that the method was often injurious. Several had attempted it themselves, and finding that they did not feel so well after it had given it up. Others knew of its bad effect upon friends. From one lady I got the following story: Five women were taking instruction from one teacher at the same time. One, previously well, gave out entirely, and was afterward treated for uterine displacement. A second, after four weeks of practice, began to have leucorrhœa and pain upon walking, symptoms she had never before had. In two others dysmenorrhœa made its appearance, when formerly menstruation had been painless. The fifth one—the only one of the five who went through the process without developing more or less of what are in general terms called "uterine symptoms"—became a good singer, and is now teaching the method to others.

The opinion seems to be general that this method "brings out the voice" in a marked degree. Several have asked why some (and a number of the most celebrated professional lyric artists of the day have been named to me as singing in this way) can practice the method, while others cannot without injury to themselves. The law of "the survival of the fittest" may be a partial explanation. Possibly they have acquired the "right method" and have avoided the "wrong methods," although what constitutes the "right method" seems to be a matter of dispute among singing teachers, each thinking his (or her) method the one, and I must leave the decision of this point to those who are competent to settle it.¹ Probably some who have been injured in this way go on singing, in total ignorance of the cause of their sufferings. Perhaps in certain instances the reputation and the income derived from the possession of a wonderful voice by the professional singer may be sufficient to induce the latter to bear with physical aches and pains. This last idea has been suggested by the fact that I have been recently informed that a teacher of this city, when told by a pupil that since beginning the method she was unable to walk as formerly, replied, "A singer must expect to be unable to walk if she is to sing well," and I have heard of a somewhat similar remark made by a noted prima donna.

It may be well to call attention here to the tissues which normally sustain the uterus, and to the forces which, on the other hand, tend to press it down out of its proper position. In general terms, the tissues which

hold the womb in position are elastic, and although their strength is undoubtedly somewhat affected by the general health, as that of all ligaments and tissues must be, they are not like the common muscles, contractile and capable of being greatly strengthened by exercise. Ignorance of this fact is very common among the laity, and often leads to futile attempts at remedying uterine displacements by general gymnastic exercises, which often, perhaps as a rule, increase the downward pressure, and thus not infrequently make a bad matter worse. Indeed, general muscular strength and development is by no means a sure protection from "uterine weakness," as every physician knows.

Barnes, in his well-known and excellent text-book on the Diseases of Women, writes, "The downward force is always acting. It is exerted at every expiratory effort, and is exaggerated by coughing, . . . by every exertion, in short, which fixes the chest. . . . Then the force of gravity is added, and is always at work when the body is in the upright posture." He points out how naturally it follows that when the sustaining tissues are, from any cause, weakened, displacement ensues; and then, discussing the opposite side of the matter, says that even in virgins "*force alone exerted upon healthy structures is enough to cause prolapse.*" The force obviously comes from above. It is produced by the pressure of the intestines, bladder, and broad ligaments propagated from the *diaphragm and abdominal walls.*" He cites cases of displacement brought on by coughing. The married and those who have borne children are of course more liable to such displacements than virgins. Again Dr. Barnes writes (page 553), "In the great majority of cases prolapsus is accomplished by small forces acting continuously or with brief intermissions over a long period of time." The conditions which, according to this able writer and noted practitioner, produce the majority of cases of prolapsus would seem to be exceedingly well fulfilled by the abuse of the "abdominal method." What he says of prolapsus applies equally well to all displacements downward.

That serious uterine troubles should be caused in this way will not therefore surprise physicians once informed of this method and the manner in which it is practiced at the present time. I am assured by good authority that one Boston teacher boasts that by "*proper practice*" such power may be acquired that if the person be placed back against the wall, and a full-sized piano be moved up against the retracted abdomen, the latter, by the "abdominal method," can be so forcibly expanded that the piano will be pushed rapidly away. A medical education is hardly necessary to enable a person to understand that by such procedures injurious pressure must come upon the internal organs, especially in the female. In the cases I have reported, however, no such extreme measures were practiced. The teachers seem to have been quite careful with their pupils, so far as they knew how to be so.

As a specialist, practicing exclusively the treatment of uterine affections, doubtless more of these bad results have come to my notice than would have been the case in the same short time had I been in general practice, but from the number I have heard of since my attention was directed to the subject, I am disposed to think that upon investigation such cases will be found common enough to render the subject worthy the attention of the family physician. I strongly suspect that we have in the abdom-

¹ It is a noticeable fact that the pupils invariably consider their own instructor the best of all, and always feel certain that the method they are acquiring is the only correct one. This, however, is but natural, for did they think otherwise they would take other instruction.

inal method, as now practiced, a fruitful source of those common troubles, uterine displacements.

[NOTE. Since the foregoing was written another instance, which is worth reporting, has come under my observation. In the course of my inquiries I was told by a patient that one of her lady friends — with whom it so happened I was acquainted — knew all about the subject, having taken instruction in elocution (which, by the way, appears to have been "quite the rage" of late), in the course of which she was taught "*the proper method of abdominal respiration*," and she agreed to tell her that I wanted information about it. A few days later I met the lady on the street. She told me my patient had spoken to her, and she kindly volunteered to call at my office at some future time and talk with me upon the subject, expressing herself as quite sure that my patients had not acquired the "right method," and that all their troubles were due to this fact. I saw nothing more of the lady until a few days ago, when, going to my office in the morning, I found her awaiting me. Supposing, of course, that she had come to give me the desired information, I was very much surprised to hear that she wished to consult me professionally. She was a lady of rather exceptional muscular strength, of which she was rather proud; was fond of gymnastic exercises, and had taken much interest in "abdominal breathing." This latter she had lately practiced quite assiduously in connection with her elocution. She had the mistaken notion — previously referred to — that it would tend to strengthen the "muscles which support the womb," and thus be rather a safeguard against future uterine trouble. The week previous she had practiced the method a certain length of time on four successive days, feeling on each occasion a "pulling in the back." The fifth day she became used up, and could not go through the exercise. Since that she had become sleepless and very nervous, and remembering her conversation with me on that subject concluded to consult me at once. *I found a marked prolapse of the womb, the cervix being very near the vulva.* As the result of her experience the lady has changed her opinion, and intends to give up elocution and the "abdominal method."]

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY E. G. CUTLER, M. D.

THE SENILE KIDNEY.

SADLER¹ has examined the kidneys of twenty-eight aged persons who had died of different diseases, both acute and chronic, and found them atrophied in twenty-six cases. He says that the atrophy may attain an extreme degree, and may amount to two thirds of the original volume; usually it implicates both kidneys. The cortical substance is the portion chiefly affected, and it shows the lesions of an interstitial nephritis. Senile atrophy appears to stand in connection with the atheromatous process of advanced age; it is the result of atheroma of the renal arteries. The senile kidney is distinguished from interstitial nephritis by a change in the quantity of urine and by the absence of albumen. The œdema which exists in many cases is caused by disturbances of the circulation on the side of the heart. Uræmic phenomena are always absent, and hæmorrhages are explained by the atheromatous condition of the arteries.

¹ Gazette des Hôpitaux, No. 132, 1879.

THE ANATOMICAL CHANGE OF THE BLOOD IN INFLAMMATIONS.

Hayem² says that an increase of the white blood corpuscles occurs directly in the commencement of the disease, and attains regularly or with fluctuations a maximum which coincides with the height of the same; for example, with the formation of pus in cases of suppurative inflammation. In inflammations at the stage of decline the number of white blood corpuscles diminishes, following more or less closely the progress of the disease. In suppurative inflammations the number decreases at the moment when the pus is evacuated externally, to increase again when the evacuation is accompanied by a secondary inflammation. At the commencement of convalescence from the acute forms we frequently see, during a variable but short time, the number of the white corpuscles sink considerably below the normal limit before the physiological mean is reached.

The variations in the number of the red corpuscles in inflammatory processes depend on so different conditions, and are therefore so little uniform, that it is difficult to give a general description. We can only say that an acute inflammation of eight or ten days' duration (for example, pneumonia) almost always causes a loss of two hundred thousand to one million red blood corpuscles in one cubic millimetre. But this estimate is not exact, because it can only be made with the aid of a figure which is found after the complete restoration of health.

The number of hæmatoblasts, which in the normal condition amounts to two hundred and fifty thousand, is only slightly modified during the height of acute inflammations with rapid development. In genuine pneumonia the number is usually somewhat increased, while in the majority of the other inflammatory diseases it is diminished. Towards the end of the inflammation the number is lowest; then there suddenly appears a rapid and progressive increase of the hæmatoblasts, and this increase is the most important and most constant fact which enumeration of the elements of the blood shows.

In two or three days the number of these corpuscles attains a maximum which exceeds the normal number two, three, or four times.

ON PARASITIC HÆMOPTYSIS (GREGARINOSIS PULMONUM).

Professor E. Boelz (Tokio, Japan), in a "preliminary communication" to the *Centralblatt für die medicinischen Wissenschaften*, No. 39, 1880, says that there occurs in Japan a hitherto undescribed and even to the native physicians unknown disease, which consists in a coughing up of bloody sputa by otherwise perfectly healthy people constantly or at intervals for a long time, often during many years. These bloody sputa have nothing to do with phthisis pulmonum or any other affection of the lungs demonstrable by percussion. Even after the affection has lasted ten years the person concerned shows no subjective or objective symptom of disease, except sometimes a little scratching of the throat or a very slight cough. The author has thus far seen nineteen cases of this disease, of which twelve were observed in the last year, and he supposes that thousands of Japanese suffer from it. It has hitherto been observed only in men, mostly youthful persons of from fifteen to twenty-five years.

² Gazette hebdomadaire, No. 13, 1880.

It stretches over the whole Japanese empire, covering ten degrees of latitude, but appears to be somewhat more frequent in the south.

The sputa have a characteristic dirty red color, and are very viscid. The red color comes chiefly from the presence of blood, and varies with its amount; sometimes the color is dark red; at times, though rarely, it is very pale red. The presence of *specific parasites* also exercises an influence on the color. There are two forms of parasites: (1.) Deep yellow-brown, perfectly egg-shaped bodies, .13 mm. long and .07 mm. broad, with a transparent wall, .02 mm. thick, having a sharp, double contour, and, with a different focus, having a greenish or reddish lustre under the microscope. At the blunt end there is a sort of cover, and the cyst or "egg" opens. The contents is a tenacious jelly, in which are bedded three to five, usually four, clumps. Each clump consists (a) of a very sharply bounded colorless ball, double the size of a white blood corpuscle, with its inside in constant motion. Around these bodies, more or less inclosing them, lies (b) a coarsely granular yellow substance scattered loosely in the jelly, in which molecular motion is frequently seen. The balls continue the movement already mentioned for a time after they have left the covering; then they become surrounded by the granular substance, and appear motionless. (2.) These motionless balls have quite the same character as numberless granulated, roundish to egg-shaped, colorless or yellowish-brown, wallless blood corpuscles, .01 to .04 mm. in diameter, which frequently form the greater part of the sputum.

The larger egg-shaped bodies are psorosperm cysts; the smaller wallless balls are young psorosperms, as Boelz maintains, exactly like those which Waldenburg and Eimer figured from the intestine and liver of the mouse and rabbit. Since, according to the investigations of the authors mentioned and other observers, what are called psorosperms represent only a stage of development of gregarine, and since the name gregarine is very applicable to the kind of appearance, Boelz would name the disease *gregarinosi pulmonum*, and the parasite *gregarina pulmonalis*, or perhaps soon, on account of its color, *gregarina fusca*. Boelz hopes soon to go into the subject more in detail.

THE AMYLOID DEGENERATION.¹

The result of these investigations, which were carried out on twelve cases of amyloid degeneration, methyl-violet being chiefly used, is that the amyloid degeneration attacks not without distinction the most different elements, preferably the gland cells, *but that it is a disease of markedly progressive character, confined solely to the connective substance*. In *lymph glands* the arteries and capillaries are concerned; of the parenchyma most frequently the follicles and follicular cords. In the star-shaped frame cells the first stages of the amyloid degeneration could be proved by coloring primarily in the form of circumscribed spots; gradually amyloid swelling occurred, transformation of the frame cells into varicose lines, irregular globular bodies, which often exhibit on their surface bare nuclei or isolated star-shaped cells. At the same time the production of lymph corpuscles in the glands ceased; the lymph cells did not share the degeneration themselves, and for the most part disappeared through atrophy due to pressure. The amyloid degeneration commences in

¹ Eberth, Virchow's Archiv, lxxx. page 138.

the spleen, in the same way as in the glands in the stroma; it remains confined to it—aside from the blood-vessels—without attacking the lymph corpuscles. In one case Eberth also found the arteries and capillaries in the fat portion of the *marrow of bones* degenerated in spots. The *hepatic cells* do not undergo the amyloid degeneration, so that the change, which is often extreme, leading to an entire destruction of the parenchyma of the gland, is to be ascribed to the enormous amyloid swelling of the capillaries alone. In the beginning the amyloid spots appear as small spindles, which are sharply bounded towards the endothelium, and externally run out into the delicate stroma fibres. Gradually the amyloid layer gets larger; the endothelium is preserved, although the vessel becomes very narrow. The neighboring hepatic cells become deformed, and finally are destroyed. In the *kidneys* amyloid degeneration, aside from that of the vessels, was seen most frequently in the collecting tubes and the looped tubules; yet the degeneration was never found in the epithelium cells, even when the tunica propria was very much thickened. In the *thyroid gland* also the only change seen was in the capillaries and stroma of the gland. The arteries and capillaries of the *heart*, as well as the connective tissue between the muscular fibres, was found affected. The degeneration begins on the border-line of the connective tissue towards the muscular fibres, which may finally be destroyed themselves. In unstriated muscle the connective tissue between the fibres first becomes diseased; and the fibres themselves probably simply perish. The same thing appears to occur in the muscular coat of the vessels. Eberth found amyloid places in the adventitia of the larger arteries. In the capillaries the degeneration commences in the form of small hump-like protruberances on the surface (in the delicate capillary sheath); the endothelial nuclei may disappear through simple atrophy. In the *fat tissue of the mesentery* degeneration of the membrane of the fat cells was seen, and in places also the connective tissue between the groups of fat cells. In the *intestine*, the stroma of the mucous membrane and the villi (besides the vessels) were especially affected; the cells of the villous tissue did not appear to be diseased; also the villous and glandular epithelium were always unchanged.

THE PATHOLOGICAL ANATOMY OF THE SPINAL CORD IN PHOSPHORUS POISONING.

S. Danillo² found that in animals which he killed by acute phosphorus poisoning a peculiar affection occurred in the spinal cord, namely, besides abundant extravasations, a deposit of enormous masses of dark-red, almost black, pigment, both in the white and in the gray substance. If a slow poisoning were produced by the exhibition of small doses continued for a long time, myelitis followed, granular cells were seen around the vessels, in the ganglion cells cloudy swelling and formation of vacuoles, later contraction, once even total disappearance of the cord.

HYPERTROPHY AND DILATATION OF THE HEART.

To get at the question experimentally whether the development of dilatation and hypertrophy of the heart could be brought about purely by excessive muscular labor, Sassezky³ instituted the following investigations: Four kittens from the spring litter of the same cat

² Petersburger medicinische Wochenschrift, No. 17, 1880.

³ Petersburger medicinische Wochenschrift, No. 33, 1880.

were selected and brought up under precisely similar conditions. Starting on a fixed day, two of them were chased about in a large room for an hour and a half or two hours twice every day (morning and evening) during six months. The other two were not chased about, and with this single exception all were treated exactly alike. Once a month during the time of the experiment the four animals were weighed, and finally were killed by having their throats cut. The result of careful examination of the hearts showed that in the chased animals there was an increased circumference; thickening of the wall on the right side, thinning of the same on the left; increased breadth of the muscular fibrils of the right side of the heart and diminished breadth of the same on the left. The aorta in the chased animals had a greater diameter; the pulmonary artery, on the other hand, had similar dimensions in all the animals. The weight of the heart in the chased animals was somewhat diminished in comparison with the others. The whole weight of the body was altered, so that the increase in weight of the chased animals was far less than in the others. With regard to the heart, the author believes the physiological explanation to be as follows: Under the influence of great exertion hypertrophy of the left ventricle occurred; later, on account of too great distention, a diminution in the thickness of the walls followed; then came hypertrophy of the right side of the heart, and the section was made at a time when the walls of the right side of the heart had not yet been able to become thin.

THE PATHOLOGICAL HISTOLOGY OF ACUTE PAROTITIS.

Dr. Wendt,¹ of New York, has published a contribution to the minute anatomy of this disease, based upon the study of an inflamed gland. He found that the morbid process passed through several stages, with the ultimate possibility of complete restoration of the gland to its normal condition. The first stage of the disease was one of congestive hyperæmia, the arterioles and capillaries being packed with blood elements. Then came a stage of exudation, accompanied with the emigration of many leucocytes. Rupture of capillaries occurred simultaneously with this action. Then followed a period of epithelial hypertrophy and hyperplasia, caused, according to the author, by the stimulus of excessive blood supply to its secreting acini. Soon, however, the epithelial cells underwent cloudy swelling, and then fatty degeneration. The products of this process accumulated in the meshes of the interstitial connective tissue. Active proliferation of the secreting cells went on simultaneously with these changes. For this reason the writer expresses his belief in the power of complete glandular restoration. The question whether the disease was a case of mumps or an instance of so-called secondary parotitis was left undecided.

Hospital Practice and Clinical Memoranda.

A CASE OF SHOT WOUND OF THE BLADDER.

BY GEORGE H. BIXBY, M. D., BOSTON,
Late Senior Medical Officer United States Navy Hospital, Mississippi Squadron.

J. C., aged forty-five, native of England, an engineer in the Confederate service, was rescued from the wreck

¹ New York Medical Journal, September, 1880.

of one of the enemy's ships, the boiler of which had exploded during the engagement before Memphis, June 5, 1862. Temporarily cared for on one of the iron-clads, he was transferred to the hospital ship June 11th, six days after, in a very feeble condition. No urine had passed by the urethra since his rescue. He was unable to furnish any information in regard to the circumstances of his injury, having been found in an unconscious state, at least thirty feet from his post of duty near the engine. Inspection showed the following conditions:—

Great swelling and extensive ecchymoses of the left lumbar and gluteal regions; three inches external to the tuberosity of the ischium a circular, ragged wound, fully an inch in diameter, from which a fluid (apparently urine) constantly oozed.

His feeble condition precluded the use of an anæsthetic. Careful explorations with a probe failed to elicit the presence of a foreign body or any evidence of a fracture. Judging from his feeble condition at this stage, the shock had evidently been very severe. There were no data in regard to hæmorrhage. The peculiar form and depth of the wound and the absence of all the ordinary signs of a foreign body were suggestive of splinter wound, not an uncommon occurrence in naval warfare. The patient's condition preventing farther investigation, the diagnosis was pronounced penetrating wound of the bladder from causes unknown.

The treatment consisted in absolute rest in the dorsal position; a catheter left in the urethra, with a vial attached, in order to favor and also to note any signs of a return of the functions of the bladder.

June 16th, fifth day. Fast recovering from the shock; absence of febrile manifestations; urine passing freely and uninterruptedly from the wound.

June 21st, tenth day. Complete recovery from shock; free escape of urine from wound; appetite excellent; no fever; marked general improvement; decided flow of urine from the catheter, much less from the wound.

July 5th, twenty-fourth day. Wound contracting; flow from catheter continues, correspondingly less from the wound.

July 10th, twenty-ninth day. The wound contracted down to a fistulous opening, with slight oozing only; free escape by the catheter.

July 18th, thirty-seventh day. The wound entirely closed; escape of urine in normal quantity and quality without discomfort; catheter removed; general condition excellent.

July 20th, thirty-ninth day. Having hitherto retained the recumbent position, and feeling unusually well, he attempted to sit erect in bed. This effort and change of position occasioned a sudden and acute pain in the pelvis, which compelled him instantly to resume the former position. He compared the sensation to a prick or thrust from a pointed instrument.

This circumstance dispelled all doubt respecting the presence of a foreign body. Accordingly, the following morning the patient was etherized, and a careful exploration of the now healed and consolidated track undertaken. At this stage an entirely different condition of affairs obtained. The swelling had completely subsided, rendering the track not one third its former depth. A probe introduced four inches along the track was arrested by unmistakable evidences of a metallic substance, apparently firmly imbedded in the tissues.

After freely enlarging the opening already made by means of a small lithotomy forceps, I seized and, with considerable difficulty and no little force, removed a fragment of shell of the following form and dimensions: two inches long by one and one half inch in thickness; anterior surface smooth; posterior surface showing points of fracture more or less sharp; weight one ounce.

The treatment which followed was substantially a repetition of the first. Briefly, at the end of six weeks, the wound had firmly healed, and the functions of the bladder were fully and naturally restored.

Five months from the date of the injury, a month at least after he had been walking about the decks, he was discharged and paroled, cured, with the exception of a slight limp, which gave him no pain or inconvenience.

From a careful study of the anatomical relations of the parts involved in the injury, it is evident that the projectile entered the body lengthwise and by its pointed extremity, its course being through the margin of the glutæus maximus, the body of the obturator internus muscles, thence through the obturator foramen, penetrating the bladder, and finally lodging in its walls. If we compare the diameter of the foramen with the greater dimensions of the foreign body, it will become apparent how narrow must have been the escape from a fracture of the pelvis. It is, I think, reasonable, also, to infer that the organ, being distended at the time, offered sufficient resistance to arrest the progress of the intruder, thereby preventing the penetration of both walls of the viscus, and the inflicting of what very likely would have proven a mortal wound.

The late war furnished many cases of shot injuries of the bladder, a large number of which have been carefully collected and graphically described by Surgeon Otis, United States Army, in Volume II. Part 2 of the Medical and Surgical History of the Rebellion. A perusal of this most valuable contribution to surgical literature will richly repay any one interested in this department of military surgery.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

OCTOBER 30, 1880. The meeting was called to order by Dr. HODGES at 7.45. Sixty members present.

Dr. T. B. CURTIS read a paper on the significance of frequent micturition, which will be found on page 51 in this number of the JOURNAL.

Dr. WHITE inquired whether Dr. Curtis could suggest any reason for the more frequent micturition during the night.

Dr. CURTIS said that he could not; but it was a recognized fact. Contrary to what would be expected, there was an increased secretion during the night.

Dr. CORNELL related a case of frequent micturition in a man seventy years old. He was obliged to rise as many as twenty times during the night. He used the catheter to empty the bladder and obtained great relief.

Dr. AYER thought that the increased frequency at night was due to nervous irritation, and found that in

many cases he could relieve it by an anodyne remedy. The best that he had used was a mixture of the bromide and iodide of potassium in camphor water. It was not always successful, but gave relief in many cases.

Dr. CORNELL inquired if these were cases with enlarged prostate.

Dr. AYER said they were, and thought that the good was accomplished by allaying the general nervous irritation.

Dr. HARLOW had found benefit follow the use of an opiate in some of his cases; the frequency being diminished. He inquired what was Dr. Curtis's treatment.

Dr. CURTIS replied that the treatment depended on the cause. In many of the cases there was inability to empty the bladder without artificial means. The catheter must be used in these cases, and the patient taught to use it. In instituting the treatment, great care should be manifested, as at first cystitis is apt to be excited. He would advise the use of a soft rubber or a Mercier's catheter.

Dr. LYMAN thought that the important practical point was to empty the bladder. He did not think it best to quiet by an opiate. Physicians must be on their guard so as not to allow the bladder to fill, and to do this the catheter must be employed. Must not be deceived by the patients passing water, for they could do this, but could not get the bladder empty. He asked if there was any way of making a differential diagnosis when a fluctuating swelling was found above the pubes, in these cases, except by using the catheter.

Dr. CURTIS thought there was not. The patient could pass urine easily, though the force of the stream may be diminished, and there may be frequent stops; but these were merely presumptive signs, the use of the catheter being the only reliable one.

Dr. HODGES said that in obstructive disease of the prostate one often failed to get relief by not using the right kind of a catheter. We often see patients passing a catheter for years, but still suffering from retention. The trouble was that they were using a silver or stiff catheter. A soft catheter should be used. They may have more trouble in passing it, but Mercier's was generally easily introduced.

Dr. CURTIS said that in some old chronic cases the bladder became so changed in shape that it could not be emptied. The walls are thickened, lose their suppleness, and the floor becomes irregular.

AORTIC ANEURISM.

Dr. F. W. DRAPER presented a specimen of aneurismal dilatation of the arch of the aorta, with indirect hæmorrhage into the pericardium. The patient was a woman, sixty-five years old, spare and ill nourished. She was found dead in bed. So far as could be learned, she had not presented any symptoms referable to the heart or great vessels the day before her death; she had followed her usual pursuits, and had retired in her customary health.

At the autopsy, the pericardium was found fully distended with mingled fluid and clotted blood to the amount of ten fluid ounces. The ascending portion of the arch of the aorta was symmetrically dilated along its convex border, the dilatation being inconsiderable, not above the size of a small lemon. At the upper portion of the arch, immediately to the right of the

opening of the innominate artery, there was a transverse fissure in the intima of the aorta; the edges of the rent were quite regular, and their length was about one inch. The blood escaping through this rent, instead of passing directly upward and outward into the anterior mediastinum, took an indirect course downward and backward, dissecting the sheath of the artery away from the middle coat and, backing nearly an inch beyond the line of union of the pericardium with the aorta, ruptured the pericardium and filled its sac. The rupture was one inch and a half long, with irregular edges, but in general direction parallel with the axis of the artery. The sheath of the artery adjacent to the rupture was extensively dissected from the subjacent coats by the effused blood.

The heart was hypertrophied to a moderate degree, although the aortic valves showed no change beyond very slight thickening of their free margins. The lining of the aorta, not only near the rupture, but above and below, showed distinct atheromatous degeneration, some of the plates being calcareous.

Both lungs were engorged. The other organs of the body presented nothing noteworthy.

DR. DRAPER remarked that the rupture of an aneurism of such small dimensions must be infrequent, while hæmorrhage into the pericardium from such a source was confessedly very rare.

DR. E. M. BUCKINGHAM reported a case of poisoning by nutmegs. The patient had taken two nutmegs powdered and steeped in water, one of them at nine A. M. and one at one P. M. No symptoms were observed until six P. M., when they appeared suddenly; the head seeming to swell and the extremities to become partially numb. Drowsiness soon followed, but on lying down there was an uncomfortable sensation at the heart, to avoid which she forced herself to walk about. Two grains of tartar emetic, prescribed by the next apothecary, were followed by vomiting at intervals all night. When seen in the morning there was no symptom that could be fairly attributed to nutmeg, except a little numbness, and that wore off in the course of the day. The literature of the subject is limited, but one or two nutmegs have produced drowsiness and delirium, and larger quantities are said to have been fatal.

DR. WHITE asked the result, saying that the oil of nutmeg was an irritant, and was used as a rubefacient.

DR. BUCKINGHAM said the patient recovered. There was vomiting; but whether from the nutmeg or tartar emetic he could not say.

NOVEMBER 13, 1880. The meeting was called to order by DR. HODGES at 7.50. Twenty members present.

DR. H. D. HICKS reported a case of mitral disease with compensatory hypertrophy. After reviewing the anatomy and physiology of the heart, he gave the history of the case as follows: The patient was a merchant, fifty years old. His father died of old age, his mother is still living. With the exception of the last few years his health has always been good. He has been an active business man, exposing himself for years to great fatigue and nervous excitement, doing everything under great nervous pressure. During the last few years he has been exposed to debilitating sicknesses, having suffered with typhoid fever, congestion of the lungs, and intermittent fever. Has had palpitation of the heart for fifteen years. In the prog-

ress of his business he has been accustomed to put great strains upon his heart in running to catch trains, in ascending long flights of stairs, and, above all, in depressing the action of his heart by the habit of excessive smoking. In November, 1878, just after his recovery from intermittent fever and congestion of the lungs, he ran one third of a mile over a rough road, encumbered with a bag and his overcoat. When he reached his destination he was so exhausted, his heart beat so forcibly, and his respiration was so difficult that he was obliged to lie down on the platform of the car, where he remained an hour before he recovered. About a year afterwards, while at lunch, he was seized with a most agonizing pain in the centre of the sternum. This did not last a great while, but upon going back to his business he had another attack of pain over the region of the heart, so violent as to make him stagger. He went home immediately, perspiring profusely, and in the utmost agony. One week later he began to be short-breathed.

On January 1, 1880, after visiting the theatre, he had another attack, which began with a chill. His breathing was difficult, panting in character, and any attempt at lying down was accompanied by symptoms of suffocation. This continued for six days, when his feet and legs began to swell. He was all this time under the care of a homœopathic physician, who at the end of this time was discharged.

Under his new treatment by digitalis he improved so much as to be able to lie down in two days. About January 14th thoracentesis of the left chest was performed, and a large amount of fluid withdrawn. During these two weeks the digitalis had been given with good effect, but after the tapping he complained of greater dyspnoea than before, and also of violent palpitation of the heart. On suspicion that it might be caused by the digitalis that agent was withdrawn, with relief both to the dyspnoea and the palpitation. On renewing the medicine the troubles immediately returned, and were relieved by withdrawing it again.

The physical examination showed mitral disease with compensatory hypertrophy, and the chief peculiarity of the case was the apparently contradictory action of the digitalis. This was explained by showing that when the drug was first given the hypertrophy was not sufficient to regulate the pulmonary circulation. The withdrawal of the fluid from the chest relieved the lungs, and then the digitalis, by increasing the force of the heart, caused the same condition of engorgement in the lungs which before it had relieved.

DR. F. I. KNIGHT said that the physical signs, a præstolic followed by a diastolic murmur, mentioned by the reader were very unusual. In the first place, the mitral præstolic murmur was almost always of a rough, vibratory character, and not a blowing sound, as described by Dr. Hicks; in the second place, there was not sufficient force in the current of blood, when it began to flow from the auricle to the ventricle, to cause a murmur, and hence a murmur distinctly diastolic, that is, beginning with diastole, could usually be set down as due to aortic regurgitation, pulmonic regurgitation being very rare.

In this case the possibility of the præstolic being due indirectly to aortic regurgitation would naturally suggest itself. As pointed out by Flint, free aortic regurgitation may so float out the mitral valve at the beginning of diastole that when auricular contraction takes place the blood coming from the auricle impinges

on the mitral valve, and sets it into vibration, causing a præsystolic murmur.

This was hardly likely in Dr. Hicks's case as the symptoms (dropsy, etc.) were those of mitral rather than aortic disease.

The reader had done good service in calling attention to the indiscriminate use of digitalis in all cases of heart disease. It was indicated only when the heart was weak, and was decidedly prejudicial in predominant hypertrophy.

DR. A. N. BLODGETT asked if Dr. Hicks knew of actual disease of the heart produced by tobacco.

DR. HICKS did not, but thought that it might act as a predisposing cause by weakening the heart, and thus rendering it more liable to disease.

DR. H. I. BOWDITCH said that he had seen a great many cases of what he called tobacco heart, but never saw one with a valvular murmur. He had seen cases of valvular disease in persons who used tobacco. Considered that the action of tobacco was the same as tea and coffee: all caused functional trouble, but he had never seen a case of valvular disease which he could attribute to either. There is sometimes a slight blowing murmur heard that should not be regarded as due to mitral disease.

DR. KNIGHT thought that in a case of disease with murmur the question of the effect of tobacco was not sufficiently considered. He thought that organic disease might result from prolonged functional disturbance.

DR. HICKS did not regard the trouble in his patient as a direct result of his habits, but that the heart had been so weakened that when the strain came it could not stand it.

DR. J. HOMANS presented an ovarian cyst which he had removed a week ago. The patient was a widow, thirty-two years old, and knew that she had had the tumor four years, though probably it was of much longer duration. It was of the multilocular variety, and weighed twenty-two pounds. The operation lasted twenty minutes, and there had been no untoward symptoms since. She had had one hypodermic injection of one sixth grain morphia the evening of the operation. Her temperature had reached 100° F. only once, and her pulse had been 100 once. In treating the pedicle, he both ties and burns with the cautery.

DR. BARNES presented a number of round worms which had been found in the fæces of a hen.

DR. BOWDITCH reported a case in order to derive some information in regard to the nomenclature of disease. The patient, a gentleman seventy-four years old, generally enjoyed robust health. He has grown stout lately, which interferes somewhat with his walking. About three weeks ago he had not been well for a few days, but continued attending to his business. Being worse than usual one day, he was obliged to return home. He complained of feeling extremely debilitated, and was found to be suffering with great prostration, the pulse being very feeble. He also had slight pain in the right side. At the base of the right lung behind the respiration was found to be slightly roughened, and it was thought that he was going to have an attack of pleurisy or pneumonia. In a few days fine râles were heard at this place, which soon became coarser. There was no dullness except one day over a small spot in the middle of the back. Never any brouchial respiration nor bronchophony. No cough nor sputa. Pulse rarely over 80 or 90; tem-

perature, taken regularly, varied from 99° F. in the morning to 100° F. at night. Never had any head symptoms.

Bowels were regular, having a healthy, well-formed discharge each day except once, when for twenty-four hours he had nausea accompanied by diarrhoea. As at this time the abdomen was a little flatulent and distended, it was thought that he had typhoid fever, but there were never any rose spots or enlargement of the spleen. Although there was some trouble in the lung, it was not pneumonia. From the first there were no symptoms which are common in typhoid fever, but his colleague called the disease typhoid pneumonia. He wanted to know why it should be called this, when neither disease was present. He thought that it was a misnomer, and rather should be called simple continued fever.

DR. HODGES asked if anything had been noticed about the perspiration.

DR. BOWDITCH replied that lately he had perspired profusely, so much so as to annoy him. It had been controlled by atropine and rubbing with a salted flannel.

DR. HODGES asked if continued fever did not terminate in this way, and if typhoid is not rare at this age.

DR. HOMANS thought that typhoid and other diseases are not seen in elderly people, because they have had them when they were younger.

DR. BLODGETT spoke of two cases of cancer in which Chian turpentine had been used. In the first, five hundred pills had been given without any appreciable effect on the disease. The second case had been treated in the same way. After taking between seventy-five and one hundred pills the patient vomited a mass resembling the turpentine, which, on examination, it proved to be.

DR. BOWDITCH said that he had had no experience with the drug, but a friend had told him that he thought he had seen benefit follow its use, although the disease was now returning.

DR. CORNELL asked if any physician who was an authority had ever seen any benefit following its use.

DR. BLODGETT said that Mr. John Clay, of London, introduced the drug, and claimed that he had cured cancer by its use.

DR. FOSTER spoke of the different temperatures in a heated room on a cold day. He had made some observations on the subject, and found that the temperature was different on the floor, half-way up, and at the ceiling. In some of the rooms he had found a difference of forty degrees between the top and bottom.

Adjourned at 9.20.

— In an exchange we find that Dr. Shorthouse, in the *British Medical Journal*, August 21st, says that, according to his observation, intoxication from wine or malt liquor is likely to cause its subject to fall on his side, whisky brings him down on his face, and cider or perry invariably lays him on his back. He supposes that the different drinks act on various organs of the cerebro-spinal system. A contemporary suggests that, according to this theory, a carefully adjusted mixture of beverages might be devised which should have the effect of exactly balancing the im-

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THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES AND BETWEEN REMEDIES AND DISEASES, BY PROF. ROBERTS BARTHOLOW, M. D.

NO. II. THE ANTAGONISM BETWEEN OPIUM AND BELLADONNA, CONTINUED.

IN his second lecture, Dr. Bartholow completed the discussion of the antagonistic action of opium and belladonna. If, said he, in the fatal cases in which the antagonist had been the principal agent employed to counteract the effects of the poisonous dose taken, it could be shown, as he had attempted, that there were good and sufficient reasons to explain the failure, the evidence in opposition furnished by such cases was vastly lessened in importance. When a careful examination of the fifteen fatal cases was made, it would be found that in all of them one of the three following propositions was true: (1) the toxic dose was excessive, acting upon the tissues so long and so profoundly that they were unable to react under the influence of the antagonist; (2) the antagonist was not adequately administered, the quantity given being either too small or too large; or (3) the success of the antagonist was defeated by the failure of some vital organ. In a majority of instances the quantity of the antagonist given was insufficient, and in two the antagonist was given in excess (so that death was undoubtedly due to its preponderating influence), while in six the patients were already in a pathological state. If all the sources of fallacy were eliminated in the fatal cases, therefore, they offered no ground whatever for an adverse opinion as to the reality of the antagonism between the two agents.

The next point was to determine, as near as might be, what was a lethal dose of either poison. This was a difficult matter, and, indeed, it was practically impossible to fix upon any exact quantities, since the tolerance of the drugs varied so greatly in different individuals. In Taylor on Poisons, cases were given where very small doses of morphia, comparatively, proved fatal; and, on the other hand, it was shown that eight ounces of laudanum had been taken without injury. So, a drachm of the fluid extract of belladonna had not proved fatal, while two grains of atropia had destroyed life. Harley had collected a number of cases in which lethal doses had not been fatal, even when no antagonist or other adequate agents had been employed to counteract their effects. In the one hundred and six reported cases in which the antagonistic action of opium and belladonna had

been successfully resorted to in the treatment, it was necessary to ascertain that lethal doses had been taken, and an investigation of them as to this point revealed that in all but two the dose was certainly lethal. In one of the cases thirty grains of crude opium were taken, in one an ounce and a half of laudanum, in one from twelve to fifteen grains of morphia, in one six grains of morphia, in one five grains of morphia, and in one a teaspoonful of belladonna liniment. It was true that a source of fallacy existed in the fact that in the greater number of these cases various agents, such as the stomach-pump, emetics, faradization, ambulation, flagellation, etc., had been resorted to, in addition to the use of the antagonist; but the action of the heart, the respiratory movements, and the state of the pupil exhibited in all of them the recognized special influence of the antagonist. It was a question, indeed, to what extent such violent measures as those just mentioned were actually injurious instead of beneficial to the patient, by exhausting his strength and interfering with the quiet and regular action of the antagonist upon the various organs and tissues. In this connection he quoted Dr. Johnson, of Shanghai, China (who has had an exceptionally large experience in opium-poisoning), who states that when the system is fairly under the influence of atropia, with the breathing regular and tranquil, however slow, it is not only unnecessary but positively injurious to resort to artificial respiration.

The lecturer now proceeded to discuss the results which had been arrived at by experiments on animals, and in the first place he stated that the data furnished by the experiments of the first observers, such as Brown-Séquard, Harley, and others, were unreliable from the fact that the lethal doses were not determined by them. Harley, however, found from his experiments on dogs that when belladonna was given simultaneously with opium it prevented to a greater or less extent the nausea and vomiting occasioned by the latter; that when it was given previously to the opium it completely prevented these effects; and that, whether given previously, simultaneously, or subsequently, it always controlled the state of the pupil and respiration, and relieved impending syncope. He spoke at some length of the later experiments of Koning, Frehlich, Corona, and others, and particularly of those conducted with so much care upon rabbits by the special committee appointed by the British Medical Association in 1874, of which J. Hughes Bennett was chairman. The results derived from all these experimental researches were found to be singularly uniform, although some of the observers had differed materially as to the interpretation of the facts thus determined and the inferences which were to be drawn from them. The experiments, he thought, showed conclusively not only the nature of the antagonism, but the method of this opposed action.

He then went on to examine the nature of the antagonism as it existed in man. In order to do this it was necessary to understand what the action of each agent was, in which particulars their actions agreed, and in what points they differed. In the first place,

what was the action of each in full and in lethal doses? In answering this inquiry Dr. Bartholow gave a minute description of the effects of a full and then of a lethal dose of opium, and followed it with a similar description of the effects of a full and of a lethal dose of belladonna. In man, he continued, it had now been incontrovertibly demonstrated that there was the most marked antagonism in the action of the two agents upon the brain, the pupils, the lungs, the heart, the stomach, and the skin. When they were given together in the proper doses the respiration was maintained in a tranquil and sufficiently natural manner to convince the intelligent observer of the absence of danger. This was well illustrated in the case of Dr. Legg, and in a case which he had personally seen in connection with Dr. Mussey, of Cincinnati. In the latter, a boy eight years of age, the son of a physician, swallowed by mistake an anodyne application, prescribed for earache, which contained two grains of morphia and a grain and a half of atropia. When he was seen, the pupils were fully dilated, the face was flushed, and there was active delirium present. Afterwards sopor succeeded, but as the respiration was calm and deep, it was determined to await the result without making any interference whatever. Both the medical men were agreed as to this being the proper course to pursue, and the event of the case abundantly confirmed its wisdom. In another accidental case, reported by Dr. Cotter, the patient took twelve grains of opium and twenty-five grains of extract of belladonna, and the antagonism between the two agents was very remarkably and beautifully exhibited in the course of the symptoms which followed. At first there was a period of excitement and delirium, when the preponderating influence of the belladonna was easily recognized, and then a period of stupor, in which the opium gained the ascendancy. Then followed another period of excitement, similar to the first, and finally the patient sank into a deep but more natural sleep, from which she awoke relieved.

Such being the results of accidental experiments upon the human subject, he next glanced at the clinical results obtained by experiments made expressly for the purpose of observing the effects of the two agents upon the brain. Mitchell, Morehouse, and Keen concluded that the phantasms and hallucinations caused by atropia were effectually controlled by morphia. These phantasms were perhaps the most constant symptom produced by the former, one twenty-fifth of a grain of atropia almost invariably giving rise to such manifestations; and they found that they were completely dissipated by opium. Harley insisted upon the marked controlling action of morphia over the cerebral effects of atropia; but, strangely enough, he did not regard the cerebral action of the two as antagonistic. Yet he had attained the same practical results as Mitchell, Morehouse, and Keen. In therapeutics opium and belladonna were now frequently given conjointly, in order to get hypnotic effects which were not attainable by either alone. After alluding to the physiological differences in development between the brain of man and that of the infe-

rior animals, on account of which agents like opium and belladonna acted with less severity and in a greater variety of manifestations upon the former than upon the latter, the lecturer announced his conclusion, based both on experimental and clinical researches, that as regards the brain the two agents were antagonistic in their action. When the two were administered simultaneously, if the belladonna preponderated there would be long periods of great excitement, while the more the opium preponderated the less would be the excitement and the more prolonged and marked the periods of sopor.

As a rule, the antagonism was seen in the effect upon the pupil, and Grans had been the first to propose the state of the latter as an indication for treatment; but there were occasional exceptions to this. There were two of these in the one hundred and twenty cases reported: one among the successful cases, where the pupil remained dilated after sufficient opium had been administered to antagonize the belladonna which had been taken, and one among the unsuccessful cases, where the pupil remained contracted in spite of the free use of atropia. As there were no less than twenty cases out of the one hundred and twenty (sixteen of which were instances of belladonna poisoning) in which the state of the pupil was comparatively little affected by the action of the antagonist, the indication afforded by the pupil was correspondingly weakened. Dr. Bartholow then treated at length of the action of the two agents upon the circulation, the respiration, the stomach, the skin, and the kidneys; after which he spoke of the disposition of the poison which was effected. This was accomplished by means of elimination, the antagonists simply being opposed until the process had been completed. Furthermore, the separation and excretion of the poison was greatly promoted by the action of the antagonist in maintaining the tissues in such a condition that they could perform their normal functions. The principal route of elimination was through the kidneys, and it was therefore of great importance that free diuresis should be kept up by means of diluents, though the action of the skin and bowels was by no means to be neglected. Another point of importance was to empty the bladder as soon as any urine had accumulated, since there was reason to believe that alkaloids contained in the urine might be reabsorbed into the blood through the mucous membrane of the bladder. No exact rule could be laid down as to the quantity of the antagonist required in any given case. The best guide was not the condition of the pupil (which, as had been seen, might be deceptive), but the state of the respiration and circulation. If the pulse were full and strong and the respirations deep and rhythmical, the narcotism and the state of the pupils were of little significance. As a rule, it was best to give the antagonist in small doses, frequently repeated, and it had been found that it took almost one twentieth of a grain of atropia to counteract the effects of one grain of morphia.

From a careful consideration of the whole subject, the lecturer submitted the following conclusions:—

Opium and belladonna are antagonistic in their effect on the cerebrum. They are antagonistic in their effect on the pupil, though this is not constant. They are antagonistic in their action on the heart; but the effect of the belladonna is more profound and prolonged. They are antagonistic in their action on the respiration; belladonna promotes the excretion of carbonic-acid gas, while opium diminishes it, with the result of causing carbonic-acid narcosis to be superadded to the primary narcotism. They are antagonistic in their action on the arterial tension; opium slows the heart and paralyzes the arterioles, while belladonna counteracts these effects. The action of belladonna preponderates, however, so that when both agents are given, the rate of the pulse is greater than the mean. They are antagonistic in their effect on the kidneys; opium diminishing the excretion of urine, and belladonna stimulating the action of the organs. They are not, however, antagonistic as regards the bladder, though they act differently upon it. When the system is under the influence of opium, the evacuation of urine is interfered with on account of the action of the latter in dulling the mucous membrane and weakening the power of the muscular coat; while, when it is under the influence of belladonna, the free flow of urine is prevented by the stimulating effect of the drug upon the sphincter.

In therapeutics these agents can be used with great advantage in combination, since certain effects can thus be secured which are not attainable by the employment of either one singly.

MEDICAL NOTES.

— That our readers may have the advantage of an early perusal of Dr. Bartholow's second Cartwright lecture we have been compelled to postpone our editorials and abridge our Medical Notes.

— "In connection with the subject of serial digests, mention may here be made of work which was begun in 1872 in the Boston Medical and Surgical Journal, entitled Reports on the Progress of Dermatology, by Dr. James C. White. These semi-annual reports have been marked by well-selected abstracts of the more important papers of the time, and have proved a reliable guide to the general practitioner." — *Dr. Duhring's Address before the Dermatological Association.*

— The late Dr. Edward I. Sparks, who is the subject of obituary notices in the English medical journals, was a man of unusual activity. Since 1865 he was a sufferer from pulmonary phthisis, and since 1876 from Bright's disease. From his twenty-second year he has never been really well. Instead of yielding to despair and hopeless invalidism, he has been a most indefatigable worker. In 1868 he gained a traveling fellowship, and was known to many Americans in Vienna as a most industrious student, chiefly in Hebra's clinic. Of his own case he made a careful study, and recorded his experience for the benefit of others. For months together he subjected himself to experimental dieting, conducting at the same time an

elaborate chemical examination of his urine, recording his investigations in a paper on the effects of diet, rest, and exercise in albuminuria. In 1877 he published a translation of Binz's Therapeutics, and quite recently *The Riviera: Sketches of the Health Resorts of the North Mediterranean Coast of France and Italy*. In addition he has been a frequent contributor to the medical journals.

His whole life was a "protest against ignorance, idleness, and doubt."

— "*Guy's Hospital Gazette* pertinently remarks," says the *Medical Press and Circular*, "The nursing difficulty will be altogether obviated when the hospital is emptied of patients. The wards are in a somewhat chaotic condition in consequence of the closing of so many beds."

— Gratifying expressions of pleasure at the success of our educational number come to us from various professional pens as well as from students, who find its information valuable. Good authority in one of our largest medical centres calls it the most successful effort at a student's number ever published by an American journal.

— The most simple and reliable test for arsenic in wall papers is the immersion of a piece of the suspected paper in strong ammonia in a white saucer or plate; if the ammonia turns blue the presence of a salt of copper is proved. Then drop in a crystal of nitrate of silver; if arsenic be present the crystal will become coated with yellow arseniate of silver.

NEW YORK.

— Just before sailing for England, Mr. Thomas Hughes was given a very handsome reception by Dr. C. R. Agnew, at his residence on Madison Avenue, and most of the distinguished men in New York, of all professions, were present on the occasion.

— Brevet Brigadier-General Richard S. Satterlee, United States Army, died at his residence in New York on the 10th of November, in the eighty-third year of his age. He was born in New York State, but entered the army from Michigan, as assistant surgeon, in 1822; from which time until his retirement, in 1869, he was in active service. In 1837 he was appointed medical director for the force of General Taylor in Florida. Afterward he served in the Cherokee campaign under General Scott, and in the Mexican war he was chief surgeon of the first division of the regular troops under General Worth. He was also medical director of General Scott's army during the advance on the City of Mexico and during the occupation of that city. He was one of the survivors from the wrecked troop-ship, San Francisco. During the civil war he was stationed at New York as chief medical purveyor to the army, and his administrative ability, involving the faithful disbursement of over twenty million dollars, gained for him rapid promotions to brevet lieutenant-colonel, colonel, and on September 2, 1864, to brigadier-general. His funeral, at the Church of the Holy Communion, on the 13th of November, was attended by the Fellows of the New York Academy of Medicine, of which he was an honorary member.

Recent Literature.

The Nature and Treatment of Syphilis and the Other So-Called "Contagious Diseases." By CHARLES ROBERT DRYSDALE. Fourth edition. London: Baillière, Tindall and Cox. Pp. 172.

A little book, published in 1863, with the title, *On the Treatment of Syphilis without Mercury*, being a Collection of Evidence to prove that Mercury is a Cause of Disease, not a Remedy, was, to the best of our knowledge, the first edition of the present volume. In the same year Dr. Drysdale read a paper on the same subject before the Harveian Society, which gave rise to a discussion which lasted over two meetings and was the cause of several communications in the medical journals. In this first edition utterance was given to the sentiment that "mercury now holds its place among the list of remedies solely from its having been used by the practitioners of the past, without any sufficient evidence that it is ever of the slightest service." During the intervening years the author has come to hold a somewhat different — certainly a modified — opinion. On page 88 he says, "As I had found syphilitic sarcocoele, tertiary sore throat, ozæna, and ulcers of the skin occur frequently enough in my own non-mercurial treatment, I resolved to give the mercurial treatment a fair trial, and see whether it would prevent the dreaded tertiary stage." Had he then proceeded to give us his own conclusions or a detailed account of his cases, treated with and without mercury, from which the reader could draw his own inferences, he would have produced a book whose value would far exceed that of the present volume. Unfortunately, however, he "hopes that any honest student will be able to make up his mind from the evidence before him without any need of dogmatic assertion" on the author's part. The chapters on treatment are made up for the most part of undigested extracts from various authorities of their opinions, *pro* and *con*, in regard to the use of mercury. The opinion of the author himself is apparently summed up in the following somewhat indefinite extract taken from the last page: "It is now well known that hosts of cases do well without mercury. At the same time it is now clear that mercury in very small doses does not damage the health, and as there is a very great consensus of opinion as to its antidotal value in hard sore and in true syphilis, the rational solution of this question would seem to be that mercury is only to be administered in these very small doses, and never pushed as it used to be. . . . In short, the mercurial treatment of syphilis, is one which, in many cases, is of doubtful benefit, and which, if made use of, must not be expected to do too much."

He has used for the past three years at the Rescue Society a pill of one centigramme of the iodide of mercury twice a day. There have been no unpleasant symptoms from this dose. Patients have done well, and there have been few cases of severe complications.

The book is in general a compact history of venereal, with extensive references to a very wide circle of writers, and would prove a very valuable guide to any one desiring to acquaint himself with the literature of the subject, though scarcely intended for a text-book. The glimpses we obtain of the author make us wish he had shown himself more freely and at greater length.

P.

Miscellany.

LETTER FROM LOUISVILLE.

FROM OUR SPECIAL CORRESPONDENT.

Societies in Louisville. — Revival of the College of Physicians and Surgeons. — Reminiscences of an Ethical Period. — No Pharmacists need Apply. — Low-Fee Culprits. — The Biggest Fee taken in Kentucky. — Charges that Miscarried. — A Lively School Fight. — Stormy Petrel. — Reformation and Good Resolves for the Future, etc., etc.

LOUISVILLE is well provided with medical societies. There is the Medical Section of the Polytechnic, which meets every now and then, and talks to the shorthand reporter; the Medico-Chirurgical (limited), which convenes every fortnight at members' houses, and discusses supper and physics with much earnestness, I am told; the Pathological, which sits with closed doors; and there is, or was at some time, the Obstetrical Society of Louisville. I have not seen it, nor seen anybody yet who has seen it, but now and then, coming across its name in the inverted pyramids of title-page honors which accompany the names of several foreign and domestic specialists, I judge that it must be somewhere hereabouts. Greatest of Louisville societies, however, is the College of Physicians and Surgeons. The other bodies are more or less limited in scope and membership, and are all of comparatively modern date. The college has been the common rendezvous of the profession for nearly these fifty years, — that is, barring the intervals when its doors have been closed. It is a champion sleeper. Its last drowse extended through a period of more than three years, — the longest slumber that it has ever indulged in, though on sundry occasions it has taken a twelve months' nap. But the society, when it does live, lives lively, — drains the wine of life to the bottom; and its periods of rest follow not unnaturally upon debauch. My earliest recollections of the profession are connected with the revival of the College of Physicians and Surgeons, and I learned then that this was only one of a series of such occurrences. A crack speaker was up, and, growing eloquent upon his theme, said, "Mr. President, I do not want this society to die. I was present at its birth; I witnessed the throes of its delivery; I saw it christened and dedicated to its work; I" — But here a painfully statistical member interrupted him, and showed him the date of its charter, — some time in the thirties, — at a time when the orator himself was not far removed from obstetrical procedure. Abashed for a moment only, however, the gentleman added, "It is evident, Mr. President, I was not present at the birth of the college." We laughed a great deal, but the speaker was not wholly wrong in what he had said. It was simply a previous revival which he had in remembrance, — one of the periodic new births which the society had been going through. Since the event referred to, the college has had two additional revivals: one after the lapse of a year, and the other which took place last week, when it was called together for the first time since the spring of 1877. Two meetings have been held, with fair attendance and excellent debates, and I have no doubt that I shall have occasion to send you interesting items from the future work of the society; but it occurs to me just now that an account of some of the past episodes of the college may prove

more readable and instructive than the record of its opinions on typhoid, which subject it has just been employed in discussing. You were so lately engaged in reviving or originating — I don't know which — your code of ethics for Boston, that you may care to have a clinical report upon a kindred subject. The College of Physicians and Surgeons was fearfully ethical once. I trust its members are still not behind in performing their duties to each other and to the profession, but eight or ten years ago it had a most extraordinary run in this direction. If I remember rightly, about that time an ethical wave swept over the country, and it beat with full force upon the profession of Louisville. The college had always an eye open — its best eye — for the detection of any infringement of the code, and it was seldom that its docket was cleared of real or fancied culprits. The first notable event of my times was in connection with a celebrated chemist and pharmacist, — a man somewhat on the "Doctor Squibb" order. He was very well received in medical circles; had been, in fact, a professor of chemistry in the University, and was a member of the college. Some one discovered, however, that he sold drugs, after his sign to that effect had been hanging out for a dozen years. I believe, too, it was charged that he had invented a hair oil, or tonic, or something or other, and he was hauled up to show cause why he should be a member of the college. There was a rattling debate about his case for several evenings. He had quite an influential backing. One of his friends was a scientist who is now a corresponding member of the French Institute, and another was the wealthiest practitioner of the city. The latter gentleman unfortunately let slip the word "tomfoolery" in some side remarks he was making. The house grew painfully quiet, and a moment or so passed before one of the Fellows recovered sufficiently from rage and emotion to call him to order. The chairman, with the air of all the Doges, demanded instant apology. The objectionable term was withdrawn, but we never saw the member again after that evening, nor the future correspondent of the Institute, nor yet the doctor, chemist, and pharmacist, as he was given the grand bounce.

Just after this occurrence another opportunity for discipline arose on the question of fees. A very well-known practitioner had done some service for which he had been paid the sum of seventy-five dollars. How the particulars of the case came to the ear of the college I never knew, but the exact number of visits was reported, together with the amount paid therefor. This was below the schedule, and the college took the matter in charge. The accused gave as his defense that a number of the visits had been of a friendly and not professional nature, but the college held that it could not make such discriminations. In mercy to the prisoner, they entrusted the affair to a committee composed of his personal friends. They slaughtered him, however, and made him eat humble pie in the shape of a written apology. The penalty was total taboo, and it was a brave spirit that could defy it.

Quickly following on this case came the bout with the insurance companies. The American Medical Association had recommended that the fee for life examinations should be five dollars. The mass-meeting of physicians had indorsed it, and the college determined that its members, at least, should observe the decree. Two of these disobeyed, one the vice-president. They refused to appear, and were promptly expelled and

put beyond the pale of recognition. One of the gentlemen brought suit, retaining for his counsel an ex-attorney-general of the United States, but the college won in both lower and upper courts. Years afterward, weary of bearing the scarlet letter of the college, the two expelled members apologized, and were received back in the fold. Several other minor offenses against the schedule were tried, and then, low-fee culprits becoming scarce, the college happily lighted upon a couple of preternaturally high ones.

It was a curious episode. A celebrated lawyer from Pennsylvania, once not wholly unconnected with Mr. Buchanan's cabinet, was traveling towards Texas to look after a land case in that land-abounding territory. Rumor said that his expectant fee was fifty thousand dollars. Cogitating upon this, perhaps, or some other pleasant topic, with his arm resting on the sill of a Louisville and Nashville railway coach, it was brushed by a passing train. Of course it was not a very proper place for an arm to be, but unfortunately for the railway the trains themselves brushed, showing there was not a proper space between the tracks at that point. At any rate, the arm of a forensic giant was broken, and broken badly. The case fell into the hands of one of our great surgeons. There were a score or so of fractures, compound, comminuted, and complicated, not to mention incidental sprain. The magnitude of the injury was great, and lost nothing in the imagination nor in the recital of us young and longing and admiring friends of the party of the surgical part. Quoting now from the rumor of ten years ago, I probably may have recorded a break or two in excess, but it was a big case and a good cure. The fee charged was three thousand dollars for the principal surgeon and fifteen hundred dollars for the consultant. Other items brought the charges up to the neighborhood of five thousand dollars. The road demurred, but the surgical gentleman, equally at home in diplomacy as in splints, quietly informed the complaining president, who had visited him concerning the matter, that he had no account against the company; that simply as a matter of courtesy, at the company's request, he had exhibited the amount of his fee against the patient. The patient had declared the sum to be a mere bagatelle, and was ready at any moment to pay it. He had deferred doing so only because the company had requested that privilege. Moreover, it was unpleasant to his feelings that there should be any higgling about the matter. There was no more, and the checks bore the signature of the company's treasurer. They were the biggest fees ever taken by Kentucky doctors, and created much talk. As I have said before, the college, being out of business at the time, droning along on some pathological affairs, seized on the matter as an admirable opportunity. The members who had bagged the dollars were hauled up on the charge of extortion, and there was a lively time again. I do not remember how many nights and intervening days were spent in the matter, but there rises vividly before me now the full benches and the acrid speeches of the occasion. The envy of the extortion crowd was ill concealed, and the principal prisoner at the bar was able to turn the opportunity to his further advantage. Skilled as he was, however, in such tactics, he came near losing his ground. He was reviewing the code of ethics under which the charges had been made, and in an unfortunate moment cast some doubt upon its justness. Had a member of presbytery in Calvin's time called in question plenary inspiration of the Script-

ures, the effect could not have been greater. A watchdog of the constitution and the code, who had previously intimated that he had at one time done similar service for two hundred dollars, and failed to make impression thereby, now seized the opportunity of calling the gentleman to order for reflecting upon the organic law of the society, and the hit was tremendous. The speaker was staggered. His eloquence flowed but a few minutes longer, and in more conservative channels, and then he took his seat. The extortion charges never came to a vote, and the college is not committed against any fee, beyond the minimum, which a member may be so fortunate as to secure.

The affair of charges, however, did not all go one way. There was one notable exception that I remember. A man had fallen out of a hotel window, and had broken his thigh. A couple of neighboring doctors had taken him in charge and moved him to an infirmary. The wife of the injured man, who was not present at the time, on hearing of the accident, had sent for the surgeon of her choice to repair to her husband's assistance. He went to the infirmary, sent up word that he was in the building, and awaited the pleasure of the attending physicians. Answer was brought back that his services were not desired, and he retired. While musing upon what might have been the occasion of such treatment, information was brought to him that charges would be preferred against him for "interference with the case of a brother practitioner." The college was to meet that evening.

The surgeon was a small man, but exceedingly prompt. He invaded his accusers' offices. They were separately sorry that they had misunderstood matters, but separate sorrow did not satisfy him. He demanded conjoint contrition and aggregated apology from the two, and he got it. So beyond the rumor that the delicious event would probably transpire, the college was denied the pleasure of the affair.

There were many other ethical troubles about this time. A member was up for being examiner of a co-operative insurance company at a fee of one dollar, and defended his position on the ground that it was a charitable association. After worrying him a while they allowed him to resign. There was an anatomical row, curious and unpleasant, and a big tilt between the specialists, one of whom had underrated another's ability in solving some visual equation.

One of the principal causes of all these troubles was of course the schools, which are found in vast numbers in this community. These were not often named in the encounters, but it was plain to see what was the spirit of individual prosecution. One of the hottest encounters, too, was directly over a school matter. A very young man had been appointed to the chair of chemistry, and a journal edited by one of the members had decreed the policy as detrimental to the general good of education, public welfare, etc. A veteran in the profession, an ancient warrior, too, who had for many years occupied the chair to which the young man in question had in time succeeded, defended the general policy of such appointments before the college. He was tart enough, to be sure, to include in his remarks an attack as well as a defense, but he was a skillful parliamentarian, and got in his work under strict rules of order. Of course the answer was to come, and at the next meeting the arena was crowded. It was a carefully prepared answer, full of gall to the brim. Taking for a text *The Injury of the Public*

Welfare by the Appointment of the very Young to Important Offices, the gentleman drew entirely upon his antagonist's career for illustration. He had been made a professor when very young, and every ill imaginable had followed as a necessary sequence to the profession and society in general. He was more than an hour in reading his brief. We did not have to wait another week for a reply. The gentleman was scarcely seated before the veteran rose, and for a half an hour or more, to put it in classic phrase, the fur flew from the prosecutor of youth. Order had been too flagrantly violated in the speech which had preceded for the chairman to interpose now with any appearance of fairness, and the return fire was as pointed as it was hot. It closed with the old distich,—

"On one so lame I scorn my sword to draw,
On one so poor I cannot take the law."

And then the college adjourned, amidst great confusion.

If such events as these did no other good, they kept the benches of the college full. There was no staying away. It was made a matter of personal and party fealty to be on hand. The red cross was sent around regularly for the field nights, and there was no escaping the party whip. Dozens of men attended who never opened their mouths except to say aye or nay. I remember especially a very amiable gentleman, who did not take a great interest in society affairs, but who was in the "hands of his friends," and could always be counted on for important divisions; we used to call him "stormy petrel," for his presence was a sure indication that the wind was expected to rise.

This is a long letter to write about reminiscences, and they may not be as interesting to those who read them as to him who, sitting by his quiet fireside to-night, recalls those troubled times and restless spirits of years ago; some have sobered down to plodding ways, and many are asleep on the hill side over against the town. They were all honest, I hope, and thought they were doing best for the profession in which we are all striving to win remembrance and bread; but there is a moral in the tale. I beg you to believe that it is not the picture particularly of professional life in Kentucky. I dare to think that similar scenes have transpired and will transpire when ethical blood is up elsewhere. That crimination will lead to recrimination and charges to counter-charges is a trait of human nature which even angelic doctors on Beacon Street may not escape. In Louisville the evil worked its own cure. Possibly, everybody who needed reforming was attended to; at any rate, the College of Physicians and Surgeons removed the consideration of ethics from the general body of the society, and placed such matters in charge of a special committee, which soon found little work to do. It is seven years now since we have had a medical trial in this city. In the absence of the party whip, meetings were not so well attended, but such as did come generally contributed to excellent and instructive debate. Why the college has lapsed during these last three years I will not detain you to consider. School interests have ceased to clash: the profession is at a peace positively lamb-like when we consider that there are four colleges here and three journals, which might be thought to disturb it; and we can fondly indulge the hope that the meetings of our great society may, during this new lease of life, be characterized by all the quietude, dignity, and usefulness which should belong to such a representative body.

TENDON LIGATURES.

MR. EDITOR, — In a recent number of the JOURNAL Dr. Otis has called attention to the use of whale tendon for ligatures.

I confess to never having used or seen properly prepared animal ligatures, but it occurs to me that the strong tendon from the back of the ox could be used to serve the same purpose.

This part of the buffalo or ox is commonly dissected out by the American Indians. It is simply allowed to dry, when it serves the purpose of a hank of thread. Small pieces are split off for sewing, and used without twisting, while bow-strings are formed by twisting together larger portions. They are made flexible by moisture. I inclose a few fibres obtained from the butcher shop, and remaining in an entirely unprepared state.

I would be pleased to learn from some expert whether or not ox tendon is suitable for animal ligatures, and, further, if suitable, whether it is of any special advantage to twist together many finely split fibres. Apparently, all that is necessary is to split out portions of the sizes desired, which may be kept dry, and moistened for use or immersed in carbolic oil. Perhaps a twisted ligature could be tied more securely. Whale tendons are not yet in the market, at least not so far from salt water as Iowa, and we would like to

know if the ox may not furnish a substitute. Very truly,
IRVING W. SMITH, M. D.

CHARLES CITY, IOWA, November 3, 1880.

MEDICAL EXPERTS.

MR. EDITOR, — I have read with interest and general approval Dr. Draper's paper and proposed act on the subject of Medical Experts. But does it not do some injustice to the general practitioner? According to this act, the attending and consulting physicians of a person injured or said to be injured by the neglect or crime of another can be summoned only as ordinary witnesses, and receive only the ordinary fees. They may be as learned and skillful as the court experts, their time may be just as valuable, they may have to testify on points involving great professional knowledge, may be detained days in court, may be, in many cases, the only witnesses from whom trustworthy medical evidence can be obtained, yet their services must be practically *given* away, and they themselves placed in a position of professional *inferiority* before the court. This seems hardly a pleasant prospect. Yours respectfully,

EDWARD T. WILLIAMS, M. D.

ROXBURY, November 5, 1880.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 13, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	605	240	20.66	11.40	14.21	4.63	.33
Philadelphia.....	901,380	287	87	19.16	5.23	5.92	2.79	4.53
Brooklyn.....	566,689	248	107	31.85	25.00	19.76	1.21	.40
Chicago.....	503,298	178	81	27.53	20.23	7.87	2.25	.56
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	130	49	19.23	6.15	5.38	4.62	3.08
Boston.....	363,938	170	60	20.59	16.47	13.53	—	.59
Cincinnati.....	280,000	77	28	19.48	3.90	9.09	3.90	3.90
New Orleans.....	210,000	—	—	—	—	—	—	—
District of Columbia.....	180,000	66	30	15.15	4.55	1.52	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	56	16	30.56	12.50	8.93	10.71	7.14
Buffalo.....	155,159	54	23	33.33	20.37	3.70	5.56	3.70
Milwaukee.....	127,000	60	29	23.33	10.00	11.67	8.33	1.67
Providence.....	104,862	39	7	25.64	12.82	2.56	7.69	5.13
New Haven.....	63,000	28	10	21.43	7.14	3.57	—	—
Charleston.....	57,000	28	5	7.14	—	17.86	—	7.14
Nashville.....	43,543	13	3	30.77	7.69	7.69	7.69	—
Lowell.....	59,340	19	7	15.79	10.53	10.53	—	—
Worcester.....	58,040	25	10	28.00	—	16.00	16.00	8.00
Cambridge.....	52,860	13	5	15.39	7.69	—	—	—
Fall River.....	48,646	19	6	21.05	—	10.53	—	5.26
Lawrence.....	39,068	8	5	37.50	12.50	—	—	12.50
Lynn.....	38,376	18	7	27.78	22.22	—	—	5.56
Springfield.....	33,536	7	3	42.86	28.57	14.29	14.29	—
Salem.....	27,347	11	5	27.27	18.18	18.18	—	9.09
New Bedford.....	27,268	8	3	25.00	25.00	12.50	—	—
Somerville.....	24,964	6	—	—	—	16.67	—	—
Holyoke.....	21,961	9	5	11.11	—	44.44	—	—
Chelsea.....	21,780	5	—	20.00	—	—	—	—
Taunton.....	21,145	10	2	20.00	10.00	—	—	10.00
Gloucester.....	19,288	4	1	50.00	—	25.00	—	50.00
Haverhill.....	18,478	3	—	33.33	33.33	—	—	—
Newton.....	16,994	8	3	62.50	50.00	—	—	12.50
Newburyport.....	13,470	4	3	75.00	75.00	—	—	—
Fitchburg.....	12,270	3	—	33.33	—	—	—	33.33
Eighteen Massachusetts towns.....	138,449	48	10	18.75	8.33	6.25	—	8.33

Deaths reported 2267 (no returns from St. Louis or New Orleans); 850 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 521, consumption 339, diphtheria and croup 283, lung diseases 247, scarlet fever 75, typhoid fever 51, diarrhoeal diseases 42, small-pox 19, whooping-cough 16, malarial fevers 12, erysipelas 10, cerebro-spinal meningitis nine, measles four. From *typhoid fever*, Philadelphia 13, Baltimore and Pittsburgh four, Cincinnati three, New York, Buffalo, Providence, Charleston, Worcester, Gloucester, and Brockton two, Brooklyn, Chicago, Boston, Milwaukee, Fall River, Lawrence, Lynn, Salem, Taunton, Newton, Fitchburg, Quincy, and Beverly one. From *diarrhoeal diseases*, New York 18, Brooklyn five, Boston and Cincinnati three, Chicago, Baltimore, District of Columbia, and Nashville two, Buffalo, Milwaukee, Lowell, Fall River, and Holyoke one. From *small-pox*, Philadelphia 18, Brooklyn one. From *whooping-cough*, New York and Baltimore four, Boston three, Chicago two, Philadelphia, Cincinnati, and Worcester one. From *malarial fevers*, District of Columbia four, Brooklyn three, New Haven two, Baltimore, Buffalo, and Chicopee one. From *erysipelas*, Chicago three, Brooklyn and Cincinnati two, New York, District of Columbia, and Lawrence one. From *cerebro-spinal meningitis*, New York three, New Haven two, Brooklyn, Chicago, Milwaukee, and Chelsea one. From *measles*, Fall River two, Brooklyn and Cambridge one.

One hundred and thirty-nine cases of measles, 40 of scarlet fever, six of typhoid fever, four of small-pox, and one of measles were reported in Brooklyn; diphtheria 57, scarlet fever 26, in Boston; scarlet fever 37, diphtheria 20, in Milwaukee; scarlet fever nine, diphtheria four, typhoid fever two, erysipelas one, in Providence; scarlet fever five, diphtheria two, typhoid fever two, in Cambridge; diphtheria 11, scarlet fever nine, in New Bedford.

In 37 cities and towns of Massachusetts, with a population of 1,057,198 (population of the State 1,783,086), the total death-rate for the week was 19.68, against 19.54 and 18.83 for the previous two weeks.

For the week ending October 23d, in — German cities and towns, with an estimated population of 7,584,226, the death-rate was 23. Deaths reported 3356; 1614 under five: pulmonary consumption 449, acute diseases of the respiratory organs 205, diphtheria and croup 146, scarlet fever 98, typhoid fever 72, whooping-cough 59, measles and röteln 20, puerperal fever eight, small-pox (Königsberg, Magdeburg) two. The death-rates ranged from 13.8 in Barmen to 31.6 in Cologne; Königsberg 25; Breslau 23.4; Munich 25.6; Dresden 18.9; Berlin 26.4; Leipzig 17.6; Hamburg 21.3; Hanover 23.5; Bremen 23.9; Cologne 31.6; Frankfurt 17.6.

For the week ending October 30th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.6. Deaths reported 3244: acute diseases of the respiratory organs 333, scarlet fever 167, diarrhoea 119, whooping-cough 63, measles 57, fever 47, diphtheria 18, small-pox (London) two. The death-rates ranged from 19 in Bradford to 28 in Hull; Leeds 20; Sheffield 21; London and Birmingham 22; Bristol 23; Manchester 24; Liverpool 27. In Edinburgh 23; Glasgow and Dublin 35.

In the 20 chief towns in Switzerland for the same week, population 522,856, there were 23 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 15, diphtheria and croup six, typhoid fever four, small-pox three, scarlet fever two, small-pox two. The death-rates of the principal cities were: Geneva 22.1; Zurich 22.5; Basle 25.5; Berne 25.8.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Nov. 7	29.690	50	63	43	71	34	39	48	SW	W	W	20	26	18	O	C	F	6.20	.38
" 8	30.052	43	54	36	63	31	42	45	W	W	W	8	14	9	C	C	C	—	—
" 9	30.226	52	63	39	58	36	54	49	W	SW	W	7	6	8	O	F	C	—	—
" 10	30.353	45	58	40	74	52	84	70	NW	SE	S	5	7	1	C	C	O	—	—
" 11	29.935	50	58	42	85	100	93	93	SE	SE	W	10	13	8	O	R	C	9.00	.41
" 12	30.022	46	57	40	68	41	45	51	SW	W	W	20	20	21	C	F	F	—	—
" 13	30.239	36	46	35	53	43	45	47	W	W	W	8	16	16	F	O	O	—	—
Week.	30.074	46	63	35					W	W	W							15.20	.79

¹ O, cloudy; C, clear; F, fair; G, fog; H, hazy; R, rain; S, smoky; T, threatening.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 13, 1880, TO NOVEMBER 19, 1880.

TAYLOR, M. K., captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 242, A. G. O., November 12, 1880.

WOOD, M. W., captain and assistant surgeon. Assigned to duty at Fort Brady, Mich. S. O. 201, Department of the East, November 12, 1880.

TESSON, L. S., captain and assistant surgeon. Granted leave of absence for six months, with permission to go beyond sea. S. O. 244, A. G. O., November 15, 1880.

SATTERLEE, RICHARD S., lieutenant-colonel and brevet brigadier-general, chief medical purveyor, United States Army, retired. Died at New York city November 10, 1880.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting will be held in the Medical Library rooms, 19 Boylston Place, on the first Thursday of December, at 10.30 A. M. There will be a discussion of Dr. A. P. Clarke's paper upon Rapid Dilatation of the Cervix Uteri; also a paper by Dr. E. White upon Pelvic Cellulitis, with Abscess. The profession are invited.

HENRY M. FIELD, M. D., Secretary.

THE MEDICAL DEPARTMENT OF DARTMOUTH COLLEGE held its annual commencement upon November 16th, and conferred the degree of M. D. upon the following gentlemen:—

Edward Abbott,	Charles Edward Jenkins,
Charles Hardy Bailey,	Freeman Ansel Libby,
William Fairfield Baldwin,	Frank Brown Morrill,
Milo Blodgett,	George Carlton Parker,
Edward Hervey Currier,	Charles Wesley Pillsbury,
William Hale Currier,	Carroll Everett Proctor,
Fred Lorin Dixon,	Charles Harvey Shattuck, Jr.,
Charles Fremont Flanders,	Austin Wilbur Sidney,
Milo James Gale,	James Henry Tebbets,
Charles Goodspeed,	Arthur Burdette Thurston,
Frank Clark Granger, M. D.,	Simeon D. Treible,
John Goodrich Henry, B. S.,	Hoell Tyler.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, 19 Boylston Place, on Saturday evening, November 27th, at seven and a half o'clock. The following papers will be read: Dr. B. Joy Jeffries, Removal of a Piece of Iron from the Eye by the Electro-Magnet. Dr. H. W. Bradford, Exhibition and Description of the Electro-Magnet. The discussion will be opened by Dr. C. H. Williams.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion. Supper at nine o'clock. H. C. HAVEN, M. D., Secretary.

Lectures.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERTS BARTHOLOW, M. D.

THIRD LECTURE. THE ANTAGONISMS BETWEEN ATROPIA AND PHYSOSTIGMA, Pilocarpine, Muscaria, Quinia, Bromal Hydrate, and Aconite.

DR. BARTHOLOW first treated of the antagonism between atropia and physostigma. The extract and the active principle, eserine, — or, as it was sometimes called, physostigmine or calabariue, — were the preparations used to procure the physiological effects of the latter. After a brief historical sketch of the investigations which had been made on the subject, he described the physiological action of physostigma. This agent, he said, did not affect the cerebral functions, but it contracted the pupil, paralyzed the voluntary muscles (though it did not impair sensibility), increased secretion, energized the heart beats, raised arterial tension, and caused death by paralysis of the respiratory muscles. The points of difference between its action and that of atropia were found to be: on the brain, atropia causing delirious excitement with hallucinations and illusions, while physostigma did not affect this organ at all; on the pupil, atropia causing dilatation by stimulating the radiating fibres innervated by the sympathetic, and physostigma causing contraction by paralyzing the radiating fibres; on the respiration, atropia stimulating the respiratory centre, and physostigma paralyzing the muscles of respiration; on the heart, atropia increasing the rate of movement without adding to the power, and physostigma increasing the power without hastening the movements of the heart; on sensation, atropia drying the mouth and arresting the secretions of the intestinal tube, and physostigma increasing the salivary flow and the secretions of the whole intestinal canal; on the voluntary muscular system, atropia causing paralysis of the motor nerves, and physostigma producing spinal paralysis. As regards the lethal effects, the tendency to death by paralysis of the respiratory muscles produced by physostigma was overcome by atropia.

The first sustained and sufficiently extended experiments made to test the antagonism were those undertaken by Dr. Bartholow himself in the year 1868. While he acknowledged the superiority of the researches made by Frazer, of Edinburgh, he respectfully submitted that his own investigations, as published in the prize essay of the American Medical Association (1869), clearly preceded those of the latter by a year. In his historical review Professor Frazer had not sufficiently, he thought, put his claim on its proper basis. In quoting from the essay mentioned he took one or two sentences from the general conclusions which did not adequately convey the whole meaning of his (Bartholow's) researches. The following quotation was an epitome of Frazer's views: "Atropia is not a physiological antagonist to physostigma except in regard to their action on the organic nervous system. It would be improper, then, to use atropia against poisoning by calabar bean."

The lecturer then went on to state that his conclusions had been confirmed by subsequent investigations:

the antagonism existing in the actions on the nervous system of organic life, as he had demonstrated. His conclusions were that atropia and physostigma were antagonistic as to their influence on the respiratory movements, atropia increasing and physostigma retarding them; that they were antagonistic in their action on the heart, atropia causing increased action, and physostigma paralyzing this system; that they were opposed in respect to their action on the sympathetic, atropia causing increased action, and physostigma paralyzing this system; that they had opposite effects on the pupil in virtue of opposite effects on the sympathetic, atropia dilating the pupil by its action on the radiating fibres of the iris, and physostigma contracting the pupil by paralyzing the radiating fibres.

Dr. H. C. Wood said, in his work on Therapeutics, *Materia Medica*, and Toxicology, "In 1869 Prof. Roberts Bartholow, of Cincinnati, on the strength of a few really indecisive experiments, arrived at a conclusion opposite to that of Bourneville." Dr. Wood, Dr. Bartholow contended, had absolutely no warrant for this positive assertion. So far from his coming to a conclusion opposed to that of Bourneville, it was to the same purport, and based on a number of really decisive experiments. Historical accuracy was of some moment, and no man wished his proper opinions mangled and distorted by others.

He then took up the special points of antagonism separately, and gave a *résumé* of the conclusions at which various observers had arrived after extended researches concerning them. Among these the most conspicuous, and that which first suggested the existence of the antagonism, was the effect on the pupil. Marked differences of opinion existed as to the mechanism of the antagonism. By some the contraction of the pupil caused by eserine was referred to a paralyzing action on the dilator fibres, and by others to a spasm of the sphincter fibres. That the latter view was correct seemed supported by the effect of physostigma on the muscular layer of the intestine, which was to induce tetanic contraction or spasm. Further, when the pupil was contracted by eserine, the contraction was readily overcome by atropia. The delirium, hallucinations, and illusions caused by atropia were in no respect affected by physostigma. In all the instances of poisoning by calabar bean reported, the mind had remained unaffected until near the end, when carbonic-acid poisoning coming on, stupor and drowsiness supervened. All respiratory poisons, pure and simple, were accompanied at the close of life by carbonic-acid narcosis, due merely to the suspension of hæmatosis. Carbonic-acid narcosis was an important element in the morbid complexus of atropia poisoning. These agents did not, therefore, have antagonistic action on the cerebrum. In the spinal effects of atropia and physostigma there were obvious differences. They were both paralyzers; but atropia caused in cold-blooded animals an after-tetanic condition. When atropia and physostigma were administered simultaneously, this tetanic condition occurred at once — a fact which Dr. Bartholow was the first to demonstrate. In several of the cases of atropia poisoning, trismus was a marked symptom. Ringer and Muell had shown that atropia affected the spinal cord, and maintained that the paralysis induced by it was largely spinal, although it did impair the irritability of the motor nerve-trunks. According to the experiments of Dr. Mary Putnam-

Jacobi, the sensibility of the sensory nerves was impaired by atropia. Physostigma, on the other hand, increased the irritability of the sensory nerves, and was a spinal paralyzer, leaving the motor nerves and muscles intact. These agents, therefore, agreed on more points than they differed in the action on the spinal cord! As respects the function of secretion, there was an obvious difference in action between physostigma and atropia. An increased flow of saliva, of the intestinal juices, of the tears, and of the sweat, was a constant result of the action of physostigma, and was due, according to Heidenhain, to a cerebral excitation of the sensory nerves. The action of atropia was the opposite of this, suspending secretion, most probably by paralyzing the end organs of the nerves in the glands, since, as Schiff had shown, arrest of the secretion of the submaxillary gland followed division of the chorda tympani. On the motor functions and on the muscles atropia and physostigma acted differently. Botkin was the first to show that atropia paralyzed the motor nerve-trunks, and Las-kewich and Frazer had proved that in poisoning by calabar bean the irritability of the motor nerves and the contractibility of the muscles were unaffected. The action on the motor functions was, therefore, different, and not opposed.

After summing up the results established by the various researches, he stated that it followed from these conclusions that the lethal effects of physostigma, due to paralysis of respiration, were overcome by atropia sustaining the respiratory function. The committee of the British Medical Association, of which Dr. J. Hughes Bennett was chairman, had asserted that "the antagonism existed within very narrow limits;" but this happened to be sufficient to avert death when doses little more than lethal had been administered. The use of physostigma against the lethal effects of atropia was, however, of doubtful propriety; though the paralyzing effect of physostigma on respiration might, doubtless, be successfully overcome by suitable application of atropia.

The next antagonism taken up was that between belladonna and pilocarpine, which, the lecturer remarked, was one of the most interesting, as it was one of the most exact, in the whole series of antagonisms of medicinal agents. The history of jaborandi afforded a capital illustration of the benefit of physiological research as applied to the study of remedies. When it was first introduced, a great many observers in all parts of the world had set about the study of its actions, and in an almost incredibly short time we had been put in possession of its actions and the range of its uses. All had been abundantly confirmed by trials on man, and the first conclusions arrived at had only been supported by subsequent investigations. He then went on to describe the physiological effects of pilocarpine, the alkaloid principle of jaborandi; after which he indicated the main points of the antagonism of the agent with atropia.

The first increase in the cardiac movements caused by pilocarpine was of very short duration, and was followed by feebleness of the heart and diminished arterial tension, while atropia induced and maintained quickened heart beat and high arterial tension during at least the whole period of the action of pilocarpine. A subjective sensation of heat and flushing of the face was caused by both, but was very transient in the case of pilocarpine. Contraction of the pupil was pro-

duced by pilocarpine, dilatation by atropia. Dryness of the mouth and of the skin resulted from atropia, profuse secretion from pilocarpine. Both of these agents tended to cause nausea and vomiting, and a watery diarrhoea. Both rendered the bladder more or less irritable, and atropia increased to a small extent, while pilocarpine diminished, the urinary secretion. As regards the nervous system of animal life, no antagonism existed. Pilocarpine did not affect the cerebral functions directly; while atropia caused excitement and delirium. Pilocarpine induced weakness of the muscular system, but atropia brought on a tetanic condition by stimulating the cord, and paralysis both by an action on the cord and on the peripheral motor nerves. In all those actions involving the functions of the organic nervous system there was a very complete antagonism, but in respect to the nervous system of animal life no antagonism was possible.

The only examples of application of the antagonism to the treatment of poisoning which he had been able to find were two cases of poisoning by belladonna liniment, received into University College Hospital, in charge of Dr. Sydney Ringer. Pilocarpine was injected subcutaneously in both, without any obvious influence over either. The experience in the more important of the two cases demonstrated that one grain and a third of pilocarpine failed to excite perspiration, where one third of a grain of the same sample caused in healthy persons the most profuse sweating. It was obvious that belladonna was relatively more intense, as it was more prolonged, in its effects.

The lecturer now spoke of the various experiments made by different observers in reference to the antagonism, and gave in detail the results thus obtained. In regard to the point of secretion, he said that the increase of secretion caused by pilocarpine was not limited to the skin and salivary glands, but extended to the mucous membrane of the nose, bronchi, and intestinal canal, though to a less extent. The arrest of these secretions was not less prompt and decided. The increased secretion caused by the subcutaneous injection of one fourth of a grain of pilocarpine muriate or sulphate was arrested by one hundredth of a grain of atropia. In a personal trial of this quantity of pilocarpine he had found that the salivary flow began in three minutes, and in five minutes he was drenched with perspiration, the flush of the face and sense of warmth had ceased, the surface felt cold, and a feeling of extreme bodily depression came over him. A marvelous change was wrought by the subcutaneous injection of one hundredth of a grain of atropia. In three minutes the sense of depression began to decline; in five minutes the surface had grown warm again, and the flow of sweat and saliva ceased; so that by the end of ten minutes the disturbances caused by each had disappeared, and he was in the same condition as if neither had been taken.

Having summed up the results of the investigation, he passed on to consider the mutual interactions of atropia and muscaria. Muscaria, he said, had strong alkaline and basic properties. It was a colorless substance, having the consistence of syrup, and was readily soluble in water, while its salts deliquesced rapidly on exposure to air. The effects, taking a general view, were as follows: Considerable gastro-intestinal disturbance, nausea, vomiting and diarrhoea, and violent colic, due to a tetanic contraction of the muscular layer of the bowel, were produced by it. An active

and rather pleasurable delirium, rambling and incoherence, not unlike that of alcohol, was caused by it. In toxic doses the excitement was followed by more or less stupor, epileptiform attacks, trismus, and abolition of all reflex movements. During the stage of pleasurable intoxication the pupil was contracted. Vision was dim, and objects were seen as through a mist, and probably double. The action of the heart was weakened, and finally arrested in the diastole, the respiration was labored and stertorous, the salivary secretion was increased, the surface of the body became cold, and death ensued from failure of the heart. On the brain it was probable that muscaria acted in two ways, directly and indirectly. It first excited the cells of the gray matter, and ultimately paralyzed them, the heart being weakened, less blood passed to the brain, and hence this organ was in a condition of anæmia. As regards the eye, it caused spasm of the accommodation and a marked degree of myosis by stimulation of the motor oculi. The secretions generally were increased by muscaria, but it especially excited the salivary secretion. A slight and momentary increase in the cardiac movements was first produced by muscaria, but this was followed by retardation. Direct application of this agent arrested the heart in the diastole, but mechanical, chemical, and electrical irritation would induce contraction.

No physiological antagonism could be more complete than that between atropia and muscaria. On the brain, the intoxication, with cerebral anæmia, of muscaria was opposed by the active delirium and cerebral hyperæmia of atropia. On the eye, the contracted pupil of muscaria, due to stimulation of the circular fibres innervated by the third nerve, was opposed by the dilated pupil of atropia, produced by the stimulation of the radiating fibres innervated by the sympathetic. On the heart, nothing could be more perfect than the contrary actions of these agents. Thus, viewed from all sides, these agents were exactly antagonistic.

Attention was then invited to the supposed opposition of actions between atropia and quinia. The only systematic experimental investigation of this antagonism that was known to have been made was that of Pantelljoff, who ascertained that quinia arrested the heart in diastole, and that the subsequent administration of atropia caused it to resume its contractions. After the subcutaneous injection of quinine the calibre of the arterioles was lessened by contraction of their walls, while the opposite effect, or dilatation, followed the administration of atropia. Quinia caused a rise in the blood pressure after a brief preliminary fall, and atropia retarded it.

In regard to the antagonism between bromal hydrate and atropia, Professor McKendrick, of the special committee of the British Medical Association, had found that after a fatal dose of bromal hydrate and atropia the introduction of atropia arrested excessive secretion from the salivary glands and mucous surfaces of the lungs, and thus obviated the tendency to death from asphyxia caused by the accumulation of fluids in the air-passages. Atropia also caused contraction of the blood-vessels, and thus antagonized the action of bromal hydrate, which caused dilatation of these vessels by paralysis of the sympathetic nerve. While, however, atropia might save life after a fatal dose of bromal hydrate, the converse of this apparently did not hold good.

The lecturer then briefly alluded to the antagonism

between atropia and aconite, as pointed out by Fothergill, and concluded with some account of the new mydriatic, duboisia, which, he said, might be substituted for atropia in the antagonism with morphia, with physostigma, with pilocarpine, with muscaria, with quinia, with bromal hydrate, and with aconite.

LECTURES, BOOKS, AND PRACTICAL TEACHING.¹

BEING AN INTRODUCTORY LECTURE TO A COURSE OF PRACTICE OF MEDICINE, 1877-78.

BY W. T. GAIRDNER, M. D.,

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You will observe, then, gentlemen, that professors and text-books are alike subject to one great cause of instability in the present day,—the fluctuating and revolutionary state of the medical science and art. It is vain to dispute this fact, or to fight against it. The text-book must be rewritten or completely revised, edition after edition, or it must perish. The professor's lectures must be freshly brought up, altered, amended, often completely remodeled, almost from year to year, or they are nought. Now what is the great and abiding lesson from this, for you and for me; or rather, how can any one teacher, in any one session, so address you as to convey to you the most wholesome and most abiding kind of education in the practice of medicine? And the question is not at all here, how he is to establish the greatest reputation for himself, but how he is to do the greatest amount of practical good to you. The two objects may be more or less associated; but the latter is the one in which you are most directly interested at present.

I will assume, for a moment, and I think I may fairly assume, at this stage of your progress, as within the experience of all of you, that to learn a science or an art from the personal instruction of a living man is something very different from learning the same facts out of a book. In the book you have the facts, no doubt, and the arguments too; nay, you may have them much more fully and exhaustively than they can be presented by the living voice. But in every demonstrative and experimental science and art there is much that the average man cannot learn out of a book at all; and much that, even if he should have committed the whole book to a retentive memory, he had far better learn over again, from experimental and personal teaching. If we could discover what is that subtle essence which gives the face and voice of a teacher of the right sort so much more power to impress truth of this kind than a book has, we should have mainly solved the problem of constructing a course of lectures in accordance with the wants of the present time.

Now, if you will think of it, I believe you will find that the chief advantage that a living man has, to you, over a book, is that you have, or may have, a more living *faith* in him; that is, you have means of testing his statements, and submitting his doctrines to criticism and personal inquiry. Of course you may be quite wrong; the professor may be wanting in knowledge himself,—an ignoramus or a humbug, and so quite unworthy of your faith. But still, on the other hand, if he is a right-minded man, and tolerably sure of his ground, he will lay himself open to your inquiry

¹ Concluded from page 511.

and criticism, and if he is not sure of his ground he will tell you so, and make a clean breast of it. Now, when I turn to any of the commoner class of text-books, there is nothing I am more struck by than this: that in the effort after completeness, all kinds of supposed facts, and all kinds of theories, are jostled in, somehow, *pell-mell*; with the result that the anxious inquirer or reader is often greatly puzzled in trying to remember what is of the first, and what only of secondary importance. Let us say nothing, for the moment, of positive inaccuracies and errors. The great fault of almost all books, and of many lectures, to the student is, in the wise words of Dr. Allen Thomson last autumn, that they attempt too much. They lose sight of the fact that a very little real knowledge is all that can profitably enter the human mind, and still more the average human mind, in a limited period of time. All that is over and above this is mere learning by rote; or, in other words, what is commonly though inelegantly called *cram*. And out of *cram*, though you may make a bookworm or a prodigy of learning, you cannot possibly evolve a physician, or even a reasonably safe practitioner of the healing art. For you may take it as quite established by experience that you, students, let us say, of the third year, *cannot*, in one or two sessions, learn the whole art and mystery of the practice of medicine. All that you can possibly do is to learn well a few of the better known and more clearly established facts and principles; and, what is most important of all, in mastering these thoroughly, you can so inform your minds as to render them a fitting soil for the further teaching derived from experience, from reading, and from social and professional intercourse. In other words, in learning a few things well, you can teach yourselves, or be taught, how to learn many other things well by and by.

Now here, I think, is the special function of the professor, as compared with the book. He has not only to direct you *what* to learn, but he has to teach you *how* to learn. And, above all, he has to present himself to you in the attitude of one willing and able to learn himself, — *natura minister et interpres*, as Lord Bacon has it. For, in a highly progressive science and art like medicine, the first duty of the teacher is to inform you that it is progressive; and this he can do best, or perhaps only, through his own personal example. He will teach you facts, not as closing the door, but rather as opening it to new facts; he will teach you principles, but not as fixed and unalterable dogmas. To quote Lord Bacon once more, he will deal much in the *axiomata media*, or provisional generalizations from facts already known; little in *first* principles, or speculative and abstract hypotheses as to the nature and causes of disease. Thus he will endeavor to imbue your minds vividly with what is least doubtful and most important; but along with this he will not forget that the first and last of lessons to a physician, or from a physician to students of disease, is how and when to acknowledge ignorance and suspend judgment.

A distinguished, but I believe still young, professor of physical science has lately contributed some papers to certain periodicals, the object of which seems to be to discredit religion, or at least theology (which he believes to be a superstition), on the ground that it is *immoral* to believe what cannot be definitely proved. Now, I have nothing to do here with the opinions of this gentleman on the subject just mentioned; but in the application of his thesis to medicine I am con-

fronted with the difficulty that in almost all the cases in which immediate action must be taken in very critical circumstances, the action of the physician (and the same applies often to the surgeon) must be taken upon a belief which cannot be definitely proved in the manner of a deduction from first principles, which mode of proof is evidently the desideratum, or, at least, the criterion of Professor Clifford for theological truth. A man is much hurt and shattered, and is in a state of considerable collapse; you propose to amputate a limb. Will it save him? or will it even do any good? You cannot *know*; you cannot *prove* it. All you can do is to make a rapid survey of his organs and functions; judge as well as you can of his vital resistance, and act accordingly. You form a provisional belief; you act upon it, as you think, for the best, and you leave the rest to God. All this is opposed to Professor Clifford's ethical dogma. He would have us in all such cases remain in unbelief, I suppose, until the death or recovery of the patient spontaneously solves the difficulty. In like manner, here is a patient very gravely ill of typhoid fever, or of pneumonia; he is balancing between life and death; what are you to do? Perhaps nothing at all, or, at least, nothing that can be called active treatment. Here is, possibly, a course in accordance with the position that Professor Clifford would advocate. But no; to do even nothing at all that is active in a grave case of this kind you *must have a belief*, which, though founded on evidence, is not by any means proved as regards this particular case; the belief, namely, that the case will get well, or, at least, will not be the worse if so left to itself or to nature. If you did *not* so believe, it would be criminal to omit remedies. But suppose, on the other hand, that there presented itself some remedy more or less probably applicable to the symptoms; say, for instance, antimony, or stimulants, or camphor and chloroform, or the cold bath. Are you to use any of these, and which of them? Here again you must act, if you act at all on a belief founded on evidence, but certainly not proved as regards this particular case. The man may die; you may have, in the end, a misgiving; no matter; you were bound not only to believe, but to act upon your belief. No doubt the milder and less heroic practice of these modern days in many acute diseases is largely based upon skepticism as to the disturbing kinds of remedial agents formerly so much employed; but it is also based upon a growing belief — the expression of which, however, is as old as the Hippocratic era — that "our natures are the physicians of our diseases."

View the matter as you will, you cannot, in medical questions of life and death, avoid coming to some conclusion or other as a basis for action. The conclusion may be, and often ought to be, only provisional. The true and wise physician is he whose knowledge, derived from large experience and careful reasoning, enables him to appreciate at once, with the least amount of delay and disturbance, every important symptom and physical sign bearing on the interests of the patient; who, knowing as far as may be the state of every organ and part, within and without, and rapidly summing up in his mind all the available evidence as to the natural termination of similar cases, the probable causes, and the probable results of remedies, is able thus to arrive at a thoroughly *reasoned*, but not always *proved*, conclusion as to what ought to be done in this individual case. In other words, you arrive at a belief.

and you sometimes or usually act upon it under the very conditions which, when applied to theology, Professor Clifford denounces as immoral.

Now, think of it for a moment. What is there that can give you a just confidence in action and in counsel (I do not mean blind rashness and foolhardiness, which are only too easily acquired by some) in cases like these, where the issues of life and death are, as it were, immediately before you, and your minds must grapple to a belief of some kind, were it only a provisional belief, fit to guide the mind to a course of conduct, that is, to a course of action or inaction (as the case may be), which you can justify to your own conscience, and to the inquiries of others? Nothing less, nothing else, than an instinct of the mind, which I will not hesitate to call *faith*, — the “evidence of things not seen,” — which, in the case of medical faith at least, ought to be founded on knowledge as far as it goes, but which reaches beyond knowledge to a probable conclusion, and acts at once upon that. The difficulty is to preserve this power of acting on the best knowledge attainable, even though imperfect, and yet to keep the mind open to future enlightenment; and this it is which I called a moment ago the faculty of *suspense of judgment*.

Now, in the case of beginners in the art, all these various phases of belief and conviction, not to say knowledge, these complex varieties of mental attitude, so to speak, must be gone through many times over, and under the direct personal guidance of one who may be presumed, from previous knowledge and experience, to have passed through them all himself; one who can realize the difficulties of younger men in what must be to them a new field of observation, and of whom they can feel absolutely sure that he will tell them what he knows and believes frankly, but at the same time will never affect, like the charlatan or the dogmatist (for very often these are only two names for one and the same person), a knowledge that is not real, a belief that is not founded on some fair and reasonable sort of evidence. This, I need not tell you, is a kind of guidance that you can never, or only rarely and imperfectly, get in the pages of a book. It can only result from the living presence of a man. And such is the perversity of the human mind, so great its tendency to crystallize opinions into dogmas, that your first impression will always be that the views, opinions, or doctrines of the man are of more importance than the man himself; whereas the true living guidance depends entirely on the opposite presumption, namely, that the man himself is more to you than any of his dogmas. And hence it reasonably, nay, irresistibly, follows that in the just and true order of events your first exercise of medical faith must be faith in your guide; a faith not blind nor unreasoning, but founded, like all true faith, on evidence, and yet accompanied, as we have said a moment ago, by suspense of judgment. How are you to acquire such a faith in any man in reference to the important questions which form the material of this course of lectures? Partly, perhaps, from what you know of his social and professional position, and from his being set over you as professor. But chiefly, I think, and far more really, by your actually and personally seeing him at work in his department, and by some of you, at least, working along with him.

Here we touch, I think, the very root of the matter. Systematic lectures, which are mere repetitions of a text-book, are not, indeed, wholly useless, but they

never can rise above the usefulness of a text-book, any more than water can rise above its fountain-head. But systematic lectures that are informed by the spirit of a living man are valuable to you above a text-book, just in proportion as you have reason to have a living faith in that man, and in his ability to guide you aright. The territory of disease is, in a not inconsiderable part of it, an unknown territory; wholly so to some of you, largely so to all of you, to all of us. But there is a map of it, and we have to study it by the map. We cannot explore the whole of it for ourselves, nay, not even the millionth part of it, with the materials at our command. But the man who, being an actual explorer, and known to you as such, will sit down with you and discourse in a reasonable and perfectly frank manner about this unknown country; who will tell you what he has himself seen, and what he knows only by hearsay; who will anticipate your difficulties, and inform you in some detail what you have to look for in following this or that river course, threading this or that impenetrable forest or jungle, crossing this or that mountain pass, will always have a value for you above that of the mere book or map. And if he can explore even a little bit along with you, from day to day, or can so instruct others that the facts of the lectures come to be illustrated, and the methods of exploration shown forth, under his guidance, then the advantage you will derive from his map, and his explanation of it, will be immensely and indefinitely increased.

Now, gentlemen, for more than twenty years, in Edinburgh and in Glasgow, I have taught the practice of medicine systematically, by lectures and by associated practical or clinical instruction after this manner, or at least in this spirit. Do not suppose that in saying this I am making a merely personal claim, for no one can be more conscious alike of the difficulties of the task, and of errors and imperfections in the execution. But such has been my method, and to the perfecting of it in detail, from year to year, my whole strength and energy have been carefully and deliberately applied. When the clinical professorships were founded, about three years since, this question of method arose in a very decided and palpable form, as a question of mutual adjustment of rights and duties. I need not trouble you with the details, for they are written down in minutes, and illustrated by facts. My position, from first to last, has been this: clinical teaching is a most important, nay, an indispensable part of your curriculum, but from the very nature of it, being, as its name implies, *bedside* teaching, it cannot possibly be done adequately, in a large school like this, by any one, or indeed by any two, men. Therefore, while I am glad to have a colleague in this most important kind of instruction, I mean to be, and to continue, a clinical teacher, as long as health and strength and energy permit. The hospital is my laboratory, the wards are my field for practical illustration and instruction. I am glad that others are there to share the work, but I by no means intend to demit my own share in it, which I reserve in the interest of my class and of my successors, as much as in my own. These claims were fully admitted at the time by the whole of my colleagues in the medical faculty; they were equally admitted by the aspirants to the clinical chairs, and by the promoters of them; they were embodied, as I have said, in documents which received the assent of the Senate and of the University Court, and which show that my clinical teaching is as much a part of the authorized

curriculum, while I remain a physician to the Western Infirmary, as my systematic teaching.

This being said, I will go on to add that my personal desire is not rivalry, but coöperation. I look upon the Western Infirmary (viewing it for the moment only from the point of view of a teacher of medicine) in the light of a great instrument affiliated to the university, for the purpose of manifold and many-sided practical instruction; and I am well content to occupy a place in it as one of three physicians having, as nearly as possible, equal rights and equal duties. I could even wish, in your interest, that there were more wards, more physicians, and more surgeons, engaged in clinical work; being satisfied that the more the instrument is developed, without exclusiveness or partiality, the more the university will be strengthened, and your essential interests advanced.

Original Articles.

THE EARLY AMERICAN ANATOMISTS, AND THE LEGAL STATUS OF ANATOMY IN MASSACHUSETTS BEFORE 1800.

BY EDWARD MUSSEY HARTWELL, M. A.,
Fellow of the Johns Hopkins University, Baltimore.

In the annals of medical education in the United States the years 1647 and 1880 must ever be memorable. In the first, the ninth year of Harvard College, a hundred and eighteen years before the foundation of the first medical school in America, we find John Eliot, the Apostle to the Indians, writing from Roxbury to "Mr. T. Shepard, Minister of the Gospel, at Cambridge in New England:" "I have had many thoughts in my heart that it were a singular good work if the Lord would stir up the hearts of some or other of his people in England to give some maintenance to some Schoole or Collegiate exercise this way, wherein there should be Anatomies and other instructions that way." In 1880, the two hundred and forty-second year of Harvard College and the ninety-eighth of its medical department, President C. W. Eliot tells the alumni at the commencement dinner that "a fourth year's course of study has been organized in the medical school." Almost the entire history of American medical science has transpired within the period marked by these utterances. It is proposed in this article to consider only one chapter of that history, — that of the legal status of practical anatomy.

John Eliot was not only anxious "to traine the poore Indians in that skill which would confound and uproot their Powwaws," but was also, as he says in the letter quoted above, moved by "another reason, namely that our young Students in Physick may be trained up better then yet they bee, who have only theoretticall knowledge, and are forced to fall to practice before ever they saw an Anatomy made, or duely trained up in making experiments, for we never had but one Anatomy in the Countrey, which Mr. Giles Firman (now in England) did make and read upon very well."

The "first Anatomy in the Countrey" was doubtless made without the warrant of legal enactment; certainly the majority of dissections since then have been so made. The first statutory provision regarding anatomy in America seems to be the Massachusetts act of 1784, by the terms of which the bodies of those killed in duels and of those executed for killing another in a duel might be given up to the surgeons "to be dis-

sected and anatomized." In 1831 Massachusetts anticipated all her sister States, and England as well, by legalizing the study of "anatomy in certain cases."

In 1690, Governor Slaughter, of New York, died suddenly, under circumstances which excited suspicions of poisoning. Dr. Johannes Kerfbyle, assisted by five physicians, made a post-mortem examination of the body. The council ordered £8 8s. to be paid the surgeons for this examination. This is usually cited as the first recorded autopsy in America, although, as we shall see, when we consider the history of anatomy in that State, that an autopsy was made in Massachusetts as early as 1675.

It is recorded that Dr. John Bard and Dr. Peter Middleton, of New York city, in 1750 injected and dissected the body of Hermanns Carroll, an executed criminal, "for the instruction of the young men then engaged in the study of medicine." This was thirty-nine years before the State of New York legalized the dissection of the bodies of malefactors executed for arson, burglary, or murder. Though Pennsylvania passed no anatomy act until 1867, the first American medical school was organized in Philadelphia in 1765, by Drs. Morgan and Shippen, natives of that city. Dr. William Shippen, Jr., a pupil of John Hunter, gave, in 1762, a systematic course of lectures on anatomy. The fee for this course, which is said to have embraced sixty lectures, was put at "five pistoles; and any gentlemen who incline to see the subject prepared for the lecturer and learn the art of dissecting, injecting, etc., are to pay five pistoles more." This first course of lectures by Dr. Shippen, which was attended by twelve students, is usually termed the first full and scientific course of anatomical lectures given in America; although Dr. Cadwallader, as early as 1751, made dissections for the benefit of the physicians of Philadelphia, and Thomas Wood, surgeon, in 1752 advertised in the New York papers "a course on osteology and myology in the city of New Brunswick, N. J.," to be followed, in case of proper encouragement, by a course in angiography and neurology, and a course of operations on the dead body. It should also be noted that Dr. William Hunter, educated at Edinburgh under the elder Monro, who came to America in 1752, gave lectures on anatomy and surgery in Newport, R. I., in the years 1754, 1755, and 1756.

Shippen's courses were so successful that in 1765 the Medical College of Philadelphia was organized with two professorships. Dr. Shippen held the chair of "anatomy and surgery;" that of the "theory and practice of physic" was filled by Dr. John Morgan.

In New York and Massachusetts, as in Pennsylvania, the anatomists were the founders of the first medical schools. The medical department of King's, now Columbia, College was organized in New York in 1767. Dr. Samuel Clossy, an Irishman, who began his course of lectures on anatomy in New York in 1763, was chosen the first professor of anatomy in King's. Dr. John Warren, who from 1777 till the close of the Revolution had served as surgeon-in-chief of the military hospitals at Boston, gave a private course of dissections to a class of medical students in that city in 1780. In the following year he gave a public course of anatomical lectures, the success of which led to the organization of the Harvard Medical School in 1782. Dr. Warren was the first professor in the new school. He was for many years its presiding genius, and held the professorship of anatomy and surgery till his death in 1815.

It was chiefly through the efforts of Dr. Nathan Smith that the Dartmouth Medical School was founded in 1797. Dr. Smith was appointed "to deliver public lectures upon Anatomy, Surgery, Chemistry, Materia Medica, and the Theory and Practice of Physic." To the Dartmouth school is usually assigned the fourth and final place on the list of American schools of medicine founded before 1800.

Thanks to the efforts of Thomas Jefferson in 1779, Virginia can claim a place on that list for the medical department of William and Mary College. "I effected in that year, 1779," he says in his autobiography, "a change in the organization of that institution by abolishing the Grammar school and the two professorships of Divinity and Oriental languages, and substituting a professorship of Law and Police, one of Anatomy, Medicine, and Chemistry, and one of Modern Languages." In 1778 Mr. Jefferson drew up a "Bill proportioning Crimes and Punishments in Cases heretofore capital." Among its provisions was the following: "If any person commit petty treason, or a husband murder his wife, a parent his child, or a child his parent, he shall suffer death by hanging, and his body be delivered to Anatomists to be dissected." This bill was lost by the majority of a single vote, and Virginia lost the opportunity of passing the first American act to legalize anatomy in even a small way. Virginia as yet has no anatomy act.

In a previous article an attempt was made to consider the anatomy acts of America as a whole. The brief sketch contained in this article of the beginnings of practical anatomy in this country is offered by way of introduction to a somewhat detailed treatment of certain special enactments, especially those of Massachusetts, and of certain other States in which attempts have been made to promote anatomical science.

The earliest utterance in America, in recognition of the importance of anatomical studies, seems to have been made in Massachusetts. In *The Cleare Sunshine of the Gospel Breaking upon the Indians in New England* is found a letter dated "Roxbury, 24 September 1647," from John Eliot to the Rev. Thomas Shephard of "Cambridge in New England." The Apostle declares of the Indians that "all the refuge they have and relie upon in time of sickness is their Powwaws; so that it is a very needfull thing to informe them in the use of Physick, and a most effectuall meanes to take them off from their Powwawing. Some of the wiser sort I have stirred up to get this skill; I have showed them the Anatomy of man's body, and some generall principles of Physick. I have had many thoughts in my heart that it were a singular good work, if the Lord would stirre up the hearts of some or other of his people in England to give some maintenance toward some Schoole or Collegiate exercise this way, wherein there should be Anatomies and other instructions that way." It is unlikely that the Apostle Eliot added dissections to his lectures on "the Anatomy of man's body;" for later in the same letter he deprecates the fact that "our young students in Physick have onely theoreticall knowledge, and are forced to fall to practice before ever they saw an Anatomy made," and says, "We never had but one anatomy in the country, which Mr. Giles Firman (now in England) did make and read upon very well."

It was brought out in connection with the Salem witchcraft trials in 1692 that, "about seventeen years before," a jury had been impaneled upon the body of

a man that died suddenly in the house of Giles Corey, and that the jury, "among whom was Dr. Zerobabel Endicot," found the man "bruised to death and having clodders of blood about his Heart." This would indicate that a post mortem examination was made in Massachusetts as early as 1675, fifteen years prior to that made of the body of Governor Slaughter, of New York, which is usually cited as the first recorded autopsy in America.

In December, 1692, the province of Massachusetts Bay incorporated the major portion of the English act of 1604 against witchcraft among its statutes. The history and provisions of this act are worthy of more than passing mention, because it contains not only the first American, but also the first English, statutory prohibition of the desecration of graves, and indicates full well that the belief in sorcery was a potent factor in popular prejudice against human dissections. In the preamble to an act for "the appointing of Physicians and Surgeons," passed in 3 Henry VIII., 1511, it is recited that "so far forth were the Science and Cunnning of Physick and Surgery practised by ignorant persons, that common Artificers, as Smiths, Weavers, and Women, boldly and accustomedly took upon themselves great cures, and things of great Difficulty, in the which they partly use Sorcery and Witchcraft, partly apply such medicines unto the Disease as be very noious and nothing meet therefor." The practice of witchcraft was first made a felony, punishable with death and the forfeiture of estate to the king, in 1541. This act of the Parliament of 33 Henry VIII. was repealed six years later in the first year of Edward VI.; but in 1565, the fifth year of Queen Elizabeth, it was reenacted with a saving clause, whereby dower was secured to the widow and inheritance to the heir of the felon. In 1604, the first year of James I., the act of 5 Elizabeth, as well as that of the 9th Parliament of Mary of Scotland, was repealed, and an act for "the better restraining and more severe punishing of witchcraft and dealing with evil and wicked spirits" was passed. It contained the following provision, new to the English law: "If any person shall take up any dead man, woman, or child out of his, her, or their grave, or any other place where the dead body resteth, or the skin, bone, or any other part of any dead person, to be employed in any manner of witchcraft sorcery, charm or enchantment, . . . such person shall suffer pains of death as a felon, and shall lose the benefit of clergy and sanctuary."

This act was cited formally in indictments drawn in Maryland in 1674, and in Massachusetts in the spring of 1692, and was acknowledged to be in full force in Pennsylvania in 1684. Massachusetts seems to have been the only colony to embody it in its laws, which it did in December, 1692, two months after the Salem delusion had spent its force. The privy council repealed the act in 1695, because it was "not found to agree with ye Statute of King James the First whereby ye Dower is saved to ye Widow and ye Inheritance to ye heir of ye party convicted." The English act remained unrepealed till 1786, but so late as 1712 was declared to be in force in South Carolina. It does not appear that any "resurrectionist" was ever convicted under it in America. The first American act to prevent the digging up of bodies for purposes of dissection was the New York act of 1789.

The act of the State of Massachusetts, passed in 1784, against dueling is a noteworthy one, by reason

of the fact that it contains the first authorization on the part of an American legislature of the dissection of the dead bodies of malefactors. The province had enacted laws for the prevention of dueling in 1719 and 1729. That of 1719 provided penalties in the way of fine, imprisonment, and corporal punishment — any or all of them, at the court's discretion — for those convicted of engaging in, or challenging another to engage in, a duel. Under the act of 1729, duelists and their accomplices were carried in a cart to the gallows with a rope about the neck, "and after sitting for the space of one hour on the gallows, with the rope about his neck as aforesaid," the offender was confined in the common jail for one year, and at the expiration of his sentence was required to find sureties for his good behavior for the succeeding twelvemonth. The acts of 1729 and 1784 both denied Christian burial to the bodies of men killed in a duel. Moreover, it was provided in section 3 of the act of 1784 "that when it shall appear by the coroner's inquest, that any person hath been killed in fighting a duel, the coroner of the county where the fact was committed shall be directed and empowered to take effectual care that the body of such person so killed be immediately secured and buried without a coffin, with a stake drove through the body, at or near the usual place of execution, or shall deliver the body to any surgeon or surgeons, to be dissected and anatomized, that shall request the same and engage to apply the body to that use." Section 4 ordains "that any person who shall slay or kill another in a duel, and shall, upon conviction thereof on an indictment for murder, receive sentence of death, part of the judgment of the court upon such conviction shall be that the body be delivered to any surgeon or surgeons, to be dissected and anatomized, that shall appear in a reasonable time after execution to take the body and engage to apply it to that purpose."

If the Massachusetts legislators in 1784 had any intention of recognizing the needs of the anatomists, they failed to declare it, so that New York was the first State, by section 2 of its act of 1789, to express the desire that "science might not in this respect be injured by preventing the dissection of proper subjects." It was not till the passage of the Massachusetts act of 1831 that any State really undertook to "legalize the study of anatomy."

It is most likely that the provisions of the act of 1784 touching dissection were designed to make dueling a specially infamous offense. This was quite in keeping with the English law regarding dissection. In 1752, the Parliament of 22 George II., in order that "some further terror and peculiar Mark of Infamy might be added to the Punishment of Death," legalized the delivery of the bodies of executed murderers to the surgeons for dissection. This must have been the act from which the royal governors derived authority to dispose of murderers' bodies in Massachusetts in the manner indicated in the following extract, taken from the Life of Dr. John Warren, by Edward Warren M. D., page 230: "At this period [just prior to the Revolution] the governor had the disposal of the body of the criminal after execution. He might order its delivery to the man's friends, to any one to whom he himself assigned it, or to a surgeon. The prisoner, with the governor's assent, might make his own arrangements even for the sale of his body, if he was so disposed, either for the benefit of his family or his own brief enjoyment."

It is to be remarked that the act of 1752 required the judges to add either dissection or hanging in chains to the death sentence of murderers, and that previously to 1832, when the Warburton Anatomy Bill was passed, there seems to have been no warrant in English law for any sort of bargain concerning a cadaver. The only legal mode of disposing of a dead body, excepting in case of malefactors, was to bury it. Once buried, it was an indictable offense at common law for any person to exhume it, except by the leave of the proper officers.

The name of Warren is most intimately associated with the rise and progress of anatomical science in Massachusetts. Dr. John Warren while a student in Harvard College, where he graduated in 1771, was the leading spirit in forming a private anatomical society, composed of students. He says of it that "brutes were dissected and demonstrations on the bones of the human skeleton were delivered by the members." The Anatomical Society and the Spunker Club, to which there are frequent allusions in the Life of Dr. John Warren, seem to have been identical. Dr. Warren was the principal lecturer of the club. His most zealous associates were his classmate, Jonathan Norwood, William Eustis, class of 1772, and David Townsend and Samuel Adams, of the class of 1770. Adams was a son of Samuel Adams the patriot. Eustis, Adams, and Warren all studied medicine with an elder brother of the latter, Dr. and General Joseph Warren. Eustis, Warren, and Adams became surgeons in the Continental army. Adams died in 1778. Eustis lived to become governor of Massachusetts in 1823. Warren was surgeon-general of the military hospital at Boston from June, 1777, till the close of the Revolution, and was the first professor as well as the first professor of anatomy and surgery of the Harvard Medical School, of which he was practically the founder.

Some notion of the methods of study of the Spunker Club may be gained from the following extracts from letters written by Eustis to Warren prior to 1775: "This may serve to inform you that as soon as the body of Levi Ames was pronounced dead by Dr. Jeffries it was delivered by the sheriff to a person who carried it in a cart to the water side, where it was received into a boat filled with about twelve of Stillman's crew, who rowed it over to Dorchester Point. . . . When we saw the boat at Dorchester Point, we had a consultation, and Norwood, David, One Allen, and myself took chaise, and rode round to the Point, Spunker's like; but the many obstacles we had to encounter made it eleven o'clock before we reached the Point, where we searched and searched, and rid, hunted, and waded, but, alas, in vain! There was no corpse to be found. . . . We have a — from another place, so Church shan't be disappointed. P. S. By the way, we have since heard that Stillman's gang rowed him back from the Point up to the town, and after laying him out in mode and figure buried him, God knows where! Clark & Co. went to the Point to look for him, but were disappointed as well as we." No wonder that the same writer, in another letter, says, "Good heavens! to reflect on the continued bars we are meeting in our pursuits! It seems as if fate had placed medical knowledge *profunda in puteis, saxis et vix mobilibus submersa*."

Dr. Warren, in an account of the origin of the Harvard Medical School, makes the following statement:—

"In some of the more populous towns students were sometimes indulged with the privilege of examining the bodies of those who had died from any extraordinary diseases, and in a few instances associations were formed for pursuing the business of dissection, where opportunities offered from casualties, or from public executions, for doing it in decency and safety. But the Revolution was the era to which the first medical school east of Philadelphia owes its birth. The military hospitals of the United States furnished a large field for observation and experiment in the various branches of the healing art, as well as an opportunity for anatomical investigations."

It was chiefly owing to Dr. Warren's zeal in pursuit of anatomical studies that the Harvard Medical School was organized in 1782. In the winter of 1780 Dr. Warren, who was able to procure a number of subjects from having access to the bodies of soldiers who had died without relatives, gave the first course of anatomical demonstrations ever given in Boston, at the military hospital, which was situated "in a pasture at the corner of Milton and Spring streets, near where the Massachusetts Hospital now stands." These demonstrations were conducted with great privacy, owing to the popular prejudice against dissections. They were attended by a small number of medical students and young practitioners, and a few specially invited scientific gentlemen. In consequence of a vote of invitation, passed November 3, 1781, by the Boston Medical Society, Dr. Warren gave at the hospital a course of anatomical lectures during the winter of 1781-82, which was quite public. Many literary and scientific gentlemen of Boston and several Harvard students were permitted to attend it. "My father," says Dr. Edward Warren, "had so much enthusiasm for his science, he was so full of his subject, that he readily infected others with his own love of the science. President Willard and some of the corporation of the college who attended these lectures were led to the idea of forming a medical institution, to be connected with the university. The president communicated this desire to Dr. Warren. A conference was held, and he was desired to draw up the plan for such an institution, to be submitted to Dr. Willard as soon as convenient." Dr. Warren's plan, as finally amended, was unanimously adopted by the corporation of Harvard College, September 19, 1782. Among the articles adopted were the following: "That three professorships be established, namely, a professorship of anatomy and surgery, a professorship of the theory and practice of physic, and a professorship of chemistry and materia medica."

"That the professors demonstrate the anatomy of the human body with physiological observations, and explain and perform a complete system of surgical operations."

Dr. John Warren was elected to the chair of anatomy and surgery November 22, 1782, and on December 24th of the same year Dr. Benjamin Waterhouse was chosen to fill the chair of theory and practice; while the professorship of chemistry and materia medica remained unfilled till the election of Dr. Aaron Dexter, on May 22, 1783. At that time Harvard professors were required to make the following declaration:—

"I, —, elected professor in the University of Cambridge, declare myself to be of the Christian religion, as maintained in the Protestant communion. I promise to discharge the trust now reposed in me with

diligence and fidelity, and to the advancement of the students in my particular department. I promise to promote the interests of virtue and piety by my own example and encouragement. I declare and promise that I will not only endeavor the advancement of medical knowledge in the university, but consult its prosperity in all other respects."

We shall consider in a future article what it cost Massachusetts anatomists to demonstrate "with diligence and fidelity" human anatomy, at a time when material for the purpose of demonstration could be obtained only by stealth and in defiance of law.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY E. G. CUTLER, M. D.

ALTERATIONS IN THE ALIMENTARY TRACT IN PULMONARY CONSUMPTION.

Mazotti² states that in fifty autopsies performed on patients who had died of pulmonary consumption he found lesions of the alimentary tract in thirty-eight; in the remaining twelve no such lesions were present. In thirty-seven of the cases so affected the lesions consisted of ulcers situated either on the tongue, pharynx, stomach, or large or small intestine, but not in the œsophagus or rectum. In all cases, with one exception, the lesions were multiple, ulceration of the tongue, pharynx, or stomach existing simultaneously with ulceration of the intestines. In twelve cases the lesions were confined to the small intestine, in five to the large, while in twenty they affected both viscera. The author observes that in cases where ulceration has been confined to the small intestine the large has frequently contained solid fecal matter, thereby demonstrating a fact already remarked on by Niemeyer, that ulceration of the small intestines may exist without giving rise to diarrhœa. As a rule, the number and extent of the intestinal ulcerations bore a constant relation to the pulmonary lesions. In the small intestine, the ulcers were generally seated in the lower portion of the ileum, although in some cases they were confined to the ileo-cæcal valve, while in others they extended as high as the jejunum, and even duodenum. These ulcers in the earliest stages appeared as small white spherical bodies of the size of a pin's head springing from the mucous membrane. At a later stage they became larger, and the mucous membrane had shrunk away from their summits, thus leaving punctiform ulcers. In some cases the ulcers were situated on Peyer's patches, and were multiple. In the large intestine the lesions were as a rule confined to the ascending colon, though, when numerous, they were also found in the cæcum and around the vermiform appendix. The author remarks on the extreme rarity of tubercular granulations in the large intestine as compared with the small.

ON THE LESIONS OF THE LARYNX IN PULMONARY PHTHISIS.

Dr. Carl Seiler³ finds that ulcerative processes begin in the glands, and not in the mucous membrane, whence come the serrated edges of the epiglottis. The

¹ Concluded from page 521.

² *Bullettino delle Scienze Mediche*, January, 1880. *London Medical Record*, April, 1880.

³ *New York Medical Record*, June 5, 1880.

depots or foci of pus contained leucocytes, while giant cells have been found only rarely. The author thinks that gastric symptoms are found as often as laryngeal, and that it is an error to attribute to the larynx such pathological changes as determined its separate location as a phthisical habitat.

CONGENITAL ATROPHY OF THE LIVER.

Dr. A. Jacobi, at the meeting of the American Medical Association,¹ read the history of a case of congenital atrophy of the liver. The liver was reduced to one tenth or one twelfth of its normal size. The microscopic examination showed scarcely anything but interstitial tissue, and he believed it to have been a true case of interstitial hepatitis occurring in the infant. Glisson's capsule was greatly thickened, giving the appearance of chronic perihepatitis. A history of the child did not present any positive evidence of syphilis, but the lecturer believed the case to have undoubtedly been of this character. Perihepatitis had been regarded as an adult disease until recently, when several cases have been reported by the German pathologists as occurring in children. As a rule, syphilitic disease gave rise to enlargement of the liver, which, according to Murchison, might be of two kinds: first, gummatous deposits; and, second, diffuse syphilomatous degeneration, which leads to atrophy. Dr. Jacobi also reported a case of syphilitic liver which had recovered, — the only infant that he had known to survive the disease. The child was a year old, and appeared to be healthy. In the treatment, where the evidence of syphilis appears early, a prompt mercurial impression was required, and he had followed Lewin's plan of giving the bichloride of mercury hypodermically, with excellent results.

THE BEHAVIOR OF METHYLGREEN IN TISSUES WHICH HAVE UNDERGONE AMYLOID DEGENERATION.

Curschmann² gives his experience with this staining fluid in a short communication. The coloring matter gives to tissues which have undergone amyloid degeneration an intense violet color, so that they are sharply distinguished from tissues not degenerated, which are stained green or bluish-green.

Fresh sections are stained the best, but specimens hardened in alcohol or chromic acid may be beautifully colored if they are first sufficiently washed out in distilled water. The method of staining sections is the simplest possible. They are placed for a few minutes in a one per cent. watery solution; but the staining is sharper and more even when the sections are left for a longer time in a still more dilute solution. Curschmann has used diluted glycerine and levulose, recommended by Wedel, to put the sections up in. Whether the latter will prove a good material he is as yet unable to say, as his specimens had only been preserved three months. Canada balsam was not suitable, because absolute alcohol, oil of cloves, and oil of turpentine immediately extract and destroy the color. He found that in all the cases of diseased kidneys that he examined the hyaline casts in the tubules were stained ultramarine blue, so that they stood out very plainly from the green parts of the section, and were also not less readily distinguishable from the violet-colored amyloid portions. He considers this staining material to be superior to methylviolet.

¹ New York Medical Record, June 5, 1880.

² Virchow's Archiv, Band lxxix, page 556.

HYPERTROPHIC AND ATROPHIC CIRRHOSIS OF THE LIVER.

Professor Ackermann³ gives a long and interesting article on hypertrophic and atrophic cirrhosis of the liver, which he considers to be two entirely different diseases, neither genetically nor anatomically related to each other. While in the former the development of connective tissue starts from the blood-vessels which belong to the normal anatomy of the liver, in the latter it takes its origin from branches of vessels which are formed as the result of an inflammatory irritation from the interacinous terminal branches of the hepatic artery, and which are to be regarded as capillary shoots of the same. The inflammatory irritation leading to this new formation of vessels and connective tissue is exerted through the cells in the border zones of the acini, which already before the commencement of the cirrhotic disease are constantly undergoing fatty or granular degeneration and subsequent necrotic disintegration. It is then analogous to the irritation of a foreign body, and the inflammation corresponds to processes in the induration of demarkation. As the connective tissue which is formed in such processes contracts, so also does that in the atrophic cirrhosis, and gives rise to deforming cicatrices, as the granulations of the liver resulting from them are to be regarded. In the hypertrophic cirrhosis, on the other hand, the volume of the neoplastic connective tissue does not decrease, but rather remains to the end of the disease unchanged, in case it does not perhaps constantly increase in size. The new growth of connective tissue in atrophic cirrhosis may therefore be designated as an inflammatory growth, that in hypertrophic cirrhosis as an elephantastic one. The atrophic cirrhosis begins with a stage of hypertrophy which is the result of the accumulation of the connective tissue surrounding the acini, and which penetrates either very little or not at all into their substance. Through the pressure which this not yet sclerosed connective tissue exercises on the capillaries in the border zones of the acini and on the interlobular branches of the portal vein, the communication between portal vein and hepatic vein is rendered difficult, and a moderate degree of passive congestion in the commencing portion of the former is brought about, which with the advancing contraction of the connective tissue must still further increase, and finally occasion complete shutting off of the blood of the portal vein from the hepatic capillaries. Then the capillaries of the acini are supplied by blood from the hepatic artery only, which now not only performs the function of the nutritive vessel, but also assumes the function of the vessel which affords bile secretion. In the hypertrophic cirrhosis, on the other hand, the vascular connection between portal and hepatic vein remains perfectly or nearly free throughout the whole course of the disease, and signs of passive congestion in the portal system do not occur, or at least only attain a slight degree (splenic tumor). The hypertrophic cirrhosis is not always unilobular, and the atrophic not regularly multilobular. The latter is also by no means merely interlobular, but rather, save its very first commencement, partially intralobular; it is also usually capsular, and only in a few rare cases, even its later stages, insular.

The occurrence of newly-formed gall-ducts is characteristic neither of hypertrophic nor of atrophic cirrhosis, for they are found in about the same quantity in the one as in the other, and indeed it is highly prob-

³ Virchow's Archiv, Band lxxx, page 396.

able that such is the case in all diseases of the liver complicated with hyperplasia of the connective tissue. They stand genetically in no relation to the rows of hepatic cells which gradually atrophy more and more, and at last disappear without any traces; they also do not anastomose with them, but rather form anew in the neoplastic connective tissue. At the same time with it they can also be injected from the large excretory ducts of the liver, and must be regarded as true excretory ducts for the bile more particularly, preventing or diminishing icterus. They do not anastomose with each other, and form no plexuses, but consist rather of numerous ramifications, frequently arranged in coils and manifoldly twisted.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

NOVEMBER 22, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

DR. WING read a paper on

THE ABDOMINAL METHOD OF SINGING,

which was published in the preceding number of the JOURNAL.

DR. LANGMAID said that he had no doubt that Dr. Wing had hit upon the cause for these cases, and that the effect of this method of singing was so marked in the case which had come under his own notice that he could easily imagine what harm might be done to a perfectly healthy organ. He had never met with cases such as Dr. Wing had reported, in his experience digestive troubles being the result of this method when it was not properly taught. He then explained why this abdominal respiration is used. He said that, the breath being the moving force by which the voice is produced, a knowledge of the proper management of this moving force must sooner or later be acquired by singers and public speakers if they wish to succeed; but both teachers and pupils have mistaken the method, and great confusion has arisen as to the manner of using it. The whole question was reduced long ago to three methods: the clavicular, the lateral, and the abdominal or true diaphragmatic, the latter two running into each other.

Dr. Langmaid then proceeded to give a mechanical explanation of the abdominal method, showing its superiority over the other methods, and stating that so far as his knowledge went no successful great singer uses any other method. He said that he would modify the title of Dr. Wing's paper by calling it the Vicious Use of Abdominal Singing, — a method which, instead of allowing the diaphragm to descend, thus forming a reservoir of air from which the voice can be supplied by the contracting abdominal muscles, actually prevents the descent of the diaphragm, and almost completely takes away the usefulness of the abdominal muscles; for the pupil is first taught to draw the abdomen in, and then squeeze it still more, a proceeding which must be bad for all the abdominal organs.

Dr. Langmaid then said that in a properly-conducted abdominal respiration he recognized a good method for the voice, but that a wrong method must be very harmful.

DR. BAKER said that he had had three cases of uterine disease in public singers, and that he had not before recognized the cause of the displacement. He then said that this continued pressure, as used in the method described by Dr. Langmaid, must be harmful, but that if such great advantage is obtained by the singers using this method they will go on with it, in which case how are we to protect the pelvic organs? Two of his cases were of anteversion and one of backward displacement. They all had to go on singing, and a Hodge pessary did not give perfect relief, but the persistent strain was relieved by a properly adjusted abdominal bandage and an internal support. Dr. Baker then remarked that we may perhaps accomplish more good by a procedure of this kind than by opposing the whole method.

DR. LANGMAID replied that he would not deny that a certain amount of pressure is used, but that it is really more a return of the abdominal muscles to their proper position, and that this can always be reinforced by a collapse of the thoracic wall. He would also say that a tremendous amount of physical force is required of public singers, and that as a class they are the healthiest women in the world; that, however, he would not like to be on record as favoring any position which might do harm; and that if it was necessary for every singer to wear a support and an abdominal bandage they had much better never sing.

DR. BOWDITCH said that he had rarely listened to a more interesting or more important paper. The cases cited seemed to prove the truth of Dr. Wing's assertion that a certain method of teaching music called "abdominal" must tend to press down and misplace the uterus. From the description given, Dr. Bowditch thought that even a protrusion of that organ from the vulva might occasionally occur. The statement was made by the reader that by placing the back against the wall the speaker was able to push forward a large piano by means of the powerful abdominal muscles, thus intimating that such power was to be sought for by a pupil in singing. In many cases such a doctrine would prove most pernicious. Dr. Bowditch regretted that the writer had not given a precise definition of the so-called "abdominal" method. Evidently many modes of teaching are included under that epithet. Some of these may be excellent, whereas others may be fraught with danger. For example, a teacher whom Dr. Bowditch regarded as one of the best of that profession, who has a great power of bringing out the human voice by the harmonious coöperation of all the parts, — abdominal, thoracic, and cervical, — has been considered as one of these "abdominal" teachers, simply because she knows by her experience that no one of her pupils ever succeeds in bringing out the normal capabilities of the particular voice to be trained until she recognizes the special influence of what the teacher styles the "governor," in a small spot about half an inch in diameter just below the ensiform cartilage, and corresponding to the plane of the diaphragm. Some of her friends, having heard of the proposed paper by Dr. Wing, had told her that her method of teaching was to be attacked. Dr. Bowditch read a portion of a letter received from that teacher in the following words: "While I want the lower part of the lungs to be used freely and easily as a baby breathes, you know that my 'governor' cannot make his delicate consciousness felt if there be the slightest conscious contraction of

the abdominal muscles." Whether her theory, for the elucidation of which she talked with physiologists and read anatomical works, be true or not, certain it is that she is a very remarkable teacher of music, and so educates it without straining it that she brings out all the capabilities of the particular voice under her care. She moreover removes most readily the disposition to the filling of the throat and to hemming which annoys singers who have been improperly taught. Dr. Bowditch was consulted a few days since by a young lady music teacher whose only difficulty was this throat affection. Dr. Bowditch declined treating, and referred her to one of two eminent specialists for relief. On her replying that she had consulted one of them last May without benefit, he advised her to call on the music teacher whose letter had been quoted.

Dr. Bowditch asked Dr. Langmaid whether, when he is singing loudly in church, he was conscious of special abdominal strain, such as has been intimated occurs in the "abdominal" method; and whether such efforts are ever necessary. (Subsequently Dr. Bowditch informed the society that he was gratified to learn from Dr. Wing that none of his patients ever came from the teacher above alluded to.)

Dr. HAMILTON OSGOOD said that the proper management of the breath in singing is well illustrated by the physiological toy used in lectures on respiration: a bell-glass open at top and bottom, a thin rubber bag, communicating with the external air, being suspended within the glass, the lower opening of the latter being covered with a sheet of rubber tissue, in representation of the diaphragm. When this is drawn downward, the bag representing the lungs becomes slowly and gently filled, the external air following the descent of the diaphragm. In just this manner should one breathe in singing. The diaphragm being the principal muscle of ordinary respiration, so should it be in singing; and, the shoulders and upper chest being fixed, the inspired air should make its effect visible only in the epigastric region. The force should stop there, and hence inspiration should be gentle. The downward and forward movement of the contents of the abdominal cavity is but slight, and the abdominal muscles merely support the diaphragm, and thus enable it to act steadily upon the column of air without themselves contracting. The work is to be performed by the diaphragm. The abdominal cavity may fairly be compared to an elastic pouch. The descent of the diaphragm causes a slight distention of the pouch, whose walls by their resiliency support and steady the diaphragm, and as steadily follow and sustain it as it moves upward. He had a patient who had caused uterine displacement by forcible use of the abdominal muscles. Subsequently she saw her error, and found an instructor who taught her how to deliver tones from the diaphragm, while keeping the abdomen quiescent. She is a teacher, and has some forty young-lady pupils in elocution, who, being properly instructed, have no uterine trouble. The speaker said, The truth of the matter is, we have a horde of teachers who do not understand the true method of breathing in singing. It is not surprising, then, that uterine lesions are not uncommon among female students of singing and elocution. Direct use of the abdominal muscles in vocalization is not only wrong and injurious, but absolutely interferes with the proper formation of tone. They must be acted upon to a certain extent, but their action is sympathetic. It is their abuse, and not their use, which does the harm. An in-

teresting topic of discussion would be the so-called normal difference between the respiratory method of the male and female. It has been found that disuse of corsets increases abdominal action in women, and thus brings their type of breathing into resemblance with that of men, whose respiration is almost strictly abdominal. Undoubtedly those who have been harmed by the overuse of the abdominal muscles had previously fettered and limited the expansion of their lungs by tightly laced corsets.

Dr. WING said, in regard to the abdominal bandage, that if the bandage was applied to prevent the protrusion of the abdomen, then when the diaphragm sinks the uterus must sink all the more.

Dr. LYMAN remarked that a properly constructed abdominal bandage lifts the abdominal muscles, and thus removes the weight from the uterus.

Dr. WING replied that this would be the case in pregnancy, but not when the abdomen is in its natural position.

Dr. F. C. SHATTUCK mentioned a case of severe pain in the epigastrium, brought on by exercise of the abdominal muscles in a school-boy, when he was taking lessons in oratory.

Dr. OSGOOD spoke of a case of chorea in a child seven years old, where he could not increase the dose of Fowler's solution above five drops without causing diarrhoea.

Dr. LYMAN said that he thought the best treatment for chorea was to remove the patient from all causes of excitement, and give iron in some form, as the triple phosphate, and the douche. He also remarked on the difference in opinion which exists among physicians as to the proper dose of various drugs, as Fowler's solution and digitalis.

Dr. WEBBER said that he had found arsenic very useful in chorea, but it should be given in large doses, beginning with two or three drops; the dose should be increased rapidly to the limit of toleration, — ten or fifteen drops, or even more, if no tonic symptoms appear. Lately a severe case recovered under this treatment in three or four weeks, so that the child could knit and sew. Ten or twelve drops can frequently be given; fifteen or more can less frequently be borne.

OVARIAN CYST.

Dr. JOHN HOMANS reported a successful case of ovarian cyst operated on by him, and exhibited the specimen.

PILO-NIDAL SINUS.

Dr. HODGES remarked that since the last meeting he had operated on another case of pilo-nidal sinus. Although the lock of hair extracted was not as large as is usually found, it was interesting, because, in addition to the short hairs, similar in character to those found growing in the neighborhood of the sinus, it also contained three or four long hairs, corresponding in color, size, etc. (according to Dr. Whitney, who was good enough to examine them under the microscope), with the hairs of the pubes and head of the patient. Dr. Hodges had never seen this combination before. He thought that the presence of these long hairs helped to corroborate his theory as to the method by which the sinus is caused; two distinct kinds of hair not being likely to grow from a congenital inversion of the skin.

Dr. POST had seen a case since the last meeting which he supposed had been a pilo-nidal sinus.

There was a well-marked dimple and an opening two inches above it. The probe passed from the opening to the dimple when it was almost subcutaneous. On laying open the sinus no foreign substance was found. It had existed for fourteen years, closing at times and reopening.

In everything except the presence of hair it corresponded so closely with the cases described by Dr. Hodges that Dr. Post thought it had at some time contained hair and spontaneously discharged it.

CLUB-FOOT.

DR. BRADFORD showed a patient operated on by him three months before. The child, a girl eleven years old, had a severe congenital club-foot. A wedge-shaped portion of bone was removed from the tarsus. The wound healed in four weeks, and for the past month the child has walked about with perfect freedom.

GASTRIC ULCER; FATTY HEART.

DR. G. C. SHATTUCK reported the following case:—Maggie R. Gillis, domestic, twenty-one years old; born in New Brunswick; lived in Boston. Entered the Massachusetts General Hospital Thursday, October 21st. Well until two months before; from that time had some dyspeptic symptoms.

On Monday before entrance lifted a tub of water; felt a strain at the time; about half an hour afterwards vomited a large amount of blood. Continued to work until Wednesday, although vomiting blood every day.

When brought in was much blanched. Complained of no pain except in the head. Some tenderness and dullness in region of stomach. Heart sounds not distinct, but normal. Was given milk and lime-water. Vomited the next morning about half a pint of blood. Patient was then put on nutritive enemata, and had no more vomiting. Nothing except water was given by the mouth for four days. Then nourishment was given in small quantities, and four days later the enemata were omitted. At the end of two weeks after entrance she had meat for dinner every day, and took a large amount of nourishment. Patient was comfortable, but the anæmia continued to be very marked, and she did not gain strength. Bowels were regulated. In the afternoon of November 14th, twenty-one days after entrance, a change took place. Complained of oppressed feeling in epigastrium. Dyspnoea became urgent. Pulse was small and weak. Anæmia became more striking. Patient became unconscious about ten P. M.

Pulsation of radial at wrist could not be felt after two A. M., and she died, from failure of heart's action, at one o'clock the next day.

Stimulants in the last twenty-four hours were given freely, both by mouth, and, for last twelve hours, by enemata.

Autopsy fifteen hours after death, by Dr. R. H. Fitz. Rigor mortis present. Left leg and foot slightly œdematous.

Head not opened.

Some six ounces of clear fluid in pleural cavities.

Pericardium not abnormal.

Aorta thin, narrow, and elastic.

Heart small and pale; valves and contents not abnormal; gelatinous clots on right side; left side empty.

The innermost portion of the wall of the left ventricle was of an opaque, grayish-yellow appearance, which was particularly apparent in the papillæ, which were spotted.

Lungs. Both lungs were extensively œdematous throughout. A clot was found in the pulmonary artery.

The spleen, kidneys, and liver were anæmic, but not otherwise remarkable.

The bladder was empty, and not abnormal.

The uterus and ovaries were not unusual in appearance.

Stomach contracted moderately; contained a thin, yellow, and opaque fluid. On posterior wall, near œsophageal opening, was a white patch about the size of a finger-nail, running towards which were stellate contractions of the walls. The patch itself was pale and smooth. The peritoneal surface in the immediate vicinity was finely injected, without false membrane.

The small intestine contained a greenish, soft, solid material.

Scybala were found in the large intestine.

Pap-like material formed the contents of the rectum, the follicles of which were enlarged.

Diagnosis. Fatty degeneration of heart, cicatricial ulcer of stomach, and œdema of lungs.

In answer to a question from Dr. Lyman, Dr. Shattuck said that the pain usually found in these cases at the larger end of the stomach was not present.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

DECEMBER 13, 1879. DR. RICHARDSON read the report of a case of gangrenous vaginitis occurring in the Boston Lying-In Hospital.

THE NECESSITY FOR THE EXERCISE OF CARE IN THE MOST MINUTE DETAILS OF OPERATIONS UPON THE UTERINE AND ADJACENT ORGANS.

DR. BOARDMAN remarked that too great care cannot be exercised in operations upon the uterine and adjacent organs, illustrating his statement by a circumstance in a late operation which he had performed upon a lacerated cervix. Five silk sutures were put in; the third broke and slipped out, but the apposition was so good that the suture was not replaced. Later there appeared to be union throughout, and the result was apparently successful. A subsequent examination revealed an opening. There had been, apparently, union externally, while behind the parts had failed to unite, so that now there were two cervical canals instead of one.

UTERINE HÆMORRHAGE IN BRIGHT'S DISEASE.

DR. BIXBY reported a remarkable case of uterine hæmorrhage in a multipara forty-five years of age. The flowing had continued for over a year, being more profuse during the menstrual periods. All the various means resorted to, such as dilatation, curetting, application of persulphate of iron, pure nitric acid, and the tampon, failed to arrest the hæmorrhage permanently. When controlled from the uterus, it would immediately occur from the rectum. Later an examination of the urine gave evidence of Bright's disease, which was also indicated by the patient's general condition. She continued to flow for a year longer, and finally died from exhaustion in a general dropsical condition.

EPITHELIOMA?

In reference to a report, at a previous meeting, of the removal by scissors of a so-called epithelioma from within the cervix uteri of a patient one year ago. Dr. Hosmer stated that the growth had not returned, and that the patient's confinement was already overdue. There was either something in the nature of epithelioma not yet understood, said Dr. Hosmer, or the case was not one of that disease.

PERSISTENT DANGEROUS HÆMORRHAGE AFTER THE SPONTANEOUS ENUCLEATION OF A UTERINE FIBROID.

Dr. Hosmer reported the case. The tumor had been expelled May 20, 1879. When Dr. Hosmer saw the patient, June 30th, she was about the house, in fair condition. July 24th she reported that "three more tumors, weighing twelve ounces, had been expelled. These were not seen by the medical attendant, but thought by him to be coagula. Dr. Hosmer was again called August 12th. The patient had been in bed two weeks, and was suffering from pain and uterine hæmorrhage. A solid mass of coagulum filled the vagina and protruded from the os uteri. A few days later this was cleared out with the fingers. September 5th an examination revealed nothing, and the patient was supposed to be all right. Twenty-four hours later hæmorrhage occurred; subsequently an enormous clot filled the vagina. The mental and moral condition of the woman was strongly opposed to interference. Interference, moreover, might leave some harmful scratch or abrasion. The case was therefore treated on general principles, including ergot and muriate of iron. October 4th the patient experienced, while at stool, a sense of sinking, and the next morning she was reported to be dying. The coagulum, meanwhile, was increasing. October 18th there was retention of urine, and the catheter was used daily till the 26th. Later it was not required. A few days after the attack of syncope, a tumor appeared in the abdomen, rising out of the pelvis in the right groin, and it had now reached the level of the umbilicus and extended pretty well over to the median line. Diarrhœa set in, with a discharge more or less offensive from the vagina, and a centigram of morphia was given twice a day. The abdominal mass was now hard and firm, and the patient's condition was critical. Early in the case the pulse ranged from 70 to 90; later it reached 120. The temperature was but little affected, — usually $99^{\circ} + F.$, rarely reaching $100^{\circ} F.$ Dr. Hosmer asked the opinion of the society as to the later course of treatment pursued and the nature of the abdominal tumor, justifying himself as to the former by reason of the patient's moral condition and strong aversion to interference, which hitherto had been of no apparent advantage, and stating his belief as to the latter that the tumor was a coagulum. Early in the case the abdomen was frequently examined, with negative results. There was no examination of the urine. Menstruation had ceased several years ago.

Dr. Bixby said that he had seen in consultation, a few weeks ago, a case in some respects like that of Dr. Hosmer's, but unlike it in others. The case was seen late. It was a question of pelvic abscess and the propriety of making an opening through the abdominal wall. There was a tumor, distinct, round, and hard, in the left iliac region. By aspiration a small amount of blood was removed. According to the statements of the family physician, there were no pelvic evidences of

fluctuation. Later a large amount of dark grumous blood was removed with a large-size trocar. The discharge being very offensive, a large permanent opening was made. The sac was treated by antiseptic injections for six weeks. When seen by Dr. Bixby, it had nearly closed, but the discharge was still offensive. Everything considered, the patient was in excellent condition. The history and cause of the affection corresponded precisely with that of those cases of retro-uterine hæmatocele treated by a permanent opening.

Dr. Lyman questioned whether the tumor in Dr. Hosmer's case were not due to the regurgitation of blood through the Fallopian tubes.

Dr. Boardman said that he thought Dr. Lyman had suggested a very probable explanation of the tumor, in view of the history of the case, and stated that he would himself have removed the clots as far as possible from the vagina and uterus.

Dr. Richardson suggested that this explanation was unlikely, as after the menopause the Fallopian tubes are shriveled up.

Dr. Hosmer, in answer to Dr. Lyman's suggestion, said he should suppose that in such case the fluid would diffuse itself in the peritoneal cavity, and not be limited to the form of a substantial rounded mass like that which he had observed.

Dr. Hosmer said he thought it proper to rely somewhat upon the contractile power of a uterus which had been able by its own efforts to expel a uterine fibroid. When this occurred everything appeared to be left in good condition. He had never before had a case of spontaneous expulsion of a fibroid.

Dr. Richardson compared the case to a post-partum hæmorrhage, and said that he would have removed the coagula, since in no other way would it seem possible to arrest the hæmorrhage.

Dr. Lyman suggested that it would have been better to dilate the cervix and get rid of the hyperplasia, and swab out the uterine cavity with nitric acid, as in some cases he had reported, while in others relief had followed the dilatation alone.

Dr. Bixby referred to three cases of retro-uterine hæmatocele. All were in young menstruating women. The cause in each was exposure during menstruation, and in all metrorrhagia, of weeks' duration, was the prominent symptom. The hæmorrhage would cease for days at a time, no doubt having been temporarily dammed up by a clot, which, when dislodged, caused a return of the hæmorrhage.

Dr. Hosmer asked if any one present had seen hæmorrhage after the spontaneous expulsion of a uterine fibroid.

Dr. Wyman said that he had seen a case in which there was no hæmorrhage.

Dr. Wellington said that he had seen, a few weeks before, a case of ovarian tumor with dropsy, in which the woman thought she had falling of the womb. A tumor as big as the fist was found in the vagina. This was removed from its uterine attachment. But little hæmorrhage had occurred previously, and there was none afterwards.

ELONGATION OF THE CERVIX UTERI DURING LABOR.

Dr. Vaughan, of Cambridge, reported the case. The patient, a multipara, had been in labor twenty-four hours. The attending physician had tried without success to apply forceps. The head was high up, not engaged, and the anterior lip of the os was lying below

the head. After some delay the forceps were applied with some difficulty, and delivery was then accomplished with very little trouble. The placenta was then found lying well up on the pubes, but entirely without the inner os, and a large exostosis was discovered on the promontory of the sacrum. The placenta was gathered away with some difficulty, on account of the exostosis. The distance from the pubes to the inner os was upwards of four inches. The anterior lip was then at the lower border of the pubes, making one and a half inches additional. Before the child was removed the abdomen was prominent, but not lax nor pendulous.

The forces which caused the elongation of the cervix were evidently the weight of the child, thrust forward by the exostosis, and the unnatural direction of the pains, acting upon the cervix, which was pinned against the pubes.

CASE OF LABOR COMING ON DURING AN ATTACK OF FACIAL ERYSIPELAS.

DR. DOE reported the case. No untoward symptoms followed either in mother or child. During the labor the pains had been feeble, and after waiting a while Dr. Doe administered ten grains of quinia. This was followed by a revival of the pains, and the labor was soon terminated.

DR. RICHARDSON stated that he had tried quinia in at least fifty cases at the Lying-In Hospital, and had been rarely, if at all, sure that the quinia had had any effect. He asked Dr. Doe the object of the topical use of carbolic acid in the case reported by him. If a constitutional disease, why attempt to make a preventive local treatment? Dr. Richardson stated that he had found thirty or forty cases on record in the journals, in none of which did any septicaemia result. He had seen a number of cases of new-born children with erysipelas (or erysipelatoid erythema), and in none of these any evil consequences to the mother.

DR. STEDMAN stated that he had seen a fatal case of erysipelas in the new-born infant, without harm to the mother.

DR. WELLINGTON called to mind Dr. Holmes's essay upon puerperal fever, in which it was held to be a very serious matter to attend a case of labor if the physician had a case of erysipelas on hand. Although this view is not borne out by any fact in his own experience, yet so deeply was he impressed in early life by Dr. Holmes's paper that he has always been unwilling to attend a case of labor and a case of erysipelas at the same time.

DR. LYMAN said that if he remembered rightly Dr. Holmes, in this essay, made no distinction between simple and phlegmonous erysipelas.

Recent Literature.

Croonian Lectures on some Points in the Pathology and Treatment of Typhoid Fever. Delivered at the Royal College of Physicians of London. By WILLIAM CAYLEY, M. D., etc. London: J. and A. Churchill. 1880.

Dr. Cayley is a physician to the Middlesex Hospital and to the London Fever Hospital; these lectures, three in number, were delivered before the College of Physicians of London, and subsequently appeared in the English medical journals.

In book form they make a small 16mo volume of one hundred and twenty odd pages. The first lecture is devoted to the aetiology of typhoid fever, the second to its pathology, and the third to treatment. The latest results of experience and observation, as given by Liebermeister in Ziemssen, and as recorded since, are mentioned and discussed. Where theory alone is concerned, the author is wisely prudent about committing himself.

He is evidently of the opinion, as we believe is the great majority of men who have taken the trouble to revise old beliefs, or have studied the subject in the light of the latest investigations, that there is a distinct typhoid poison, although its nature is not yet satisfactorily determined. It is equally plain, though not positively expressed, that the author is a disciple of Dr. Budd rather than of Dr. Murchison; that his sympathies are with continuous propagation, and opposed to a generation *de novo*. Here, too, there is no doubt that he is with the present tendency of medical belief. Fatigue and filth have no claims to be regarded as primary causes of typhoid fever, and we hope will soon cease to be so regarded. Bartholow, in his late work on the Practice of Medicine, delivers himself on these two points with concise and pithy positiveness. Cayley touches on the various modes of propagation to which recent observation has called attention. He accepts the distribution by diseased meat as sufficiently authenticated, especially by the Kloten outbreak. The earlier outbreak at Andelfingen, in the same Swiss province, is entirely discredited by Liebermeister, and it was perhaps not worth while to give it in detail. He thinks the typhoid stools may develop contagious properties within twelve hours, and herein he agrees with other recent writers.

In the lecture on pathology, Cayley takes the same view held by Immerman, of Basle, in regard to relapse in typhoid, namely, that in relapse there is a fresh infection of the blood by the typhoid poison; that the re-infection is usually an internal one; and that errors in diet, contrary to common impression, have merely an accidental relation to such relapses.

In the lecture on treatment the author, after giving the ratio of mortality in various hospitals at home and abroad, in the English army, and in the royal navy, concludes that there is little reason to be satisfied with the expectant treatment. Though agreeing with him that the expectant treatment should be supplemented by judicious measures at the different stages of the disease, we cannot but suspect that unhygienic surroundings and the class of cases treated are largely responsible for the high rate of mortality in many of the institutions cited. Considerable space is devoted to the antipyretic treatment, whether by baths, by drugs, or by the two combined, and it is approvingly spoken of, although the author's experience with baths—one hundred and thirty cases in all—has been limited. Among the statistics quoted in support of cold baths we are surprised not to find those of Dr. Goldammer, of the Bethanien Hospital, Berlin. The author has most recent experimenters with him in the statement that cold baths do not increase liability to intestinal hæmorrhages, but that they do favor relapses.

We have devoted disproportionate space to the review of these short lectures, because it seems to us that typhoid fever is too generally regarded as a disease as to which the last word has been said.

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THE DEATH UNDER ETHER AT CINCINNATI.

THE *Cincinnati Lancet*, October 30th, devotes a large portion of its space to an account of a death after ether and a discussion about it at the Cincinnati Medical Society. The main result reached seems to be "that a state of anæsthesia is always a condition of danger." We do not quite agree with this view of the anæsthetic state, and as the writer courts "a full, free, and searching criticism," we take the liberty of offering briefly our own view of the circumstances, which seem to be most candidly stated. The case was one of a considerable abscess at the lower part of the thigh of a puerperal female, who for two months before delivery had a swelled leg. Two weeks after it was opened, the wound was further enlarged under ether; the cavity was washed out with a strong solution of chloride of zinc, drained, and dressed antiseptically. "The dressing was changed almost every day, on two or three occasions only being left on for forty-eight hours." Incidentally it may be said that this is a more frequent change than is usual with Lister dressings, and it is difficult to see how it afforded to the patient "great comfort," "especially as avoiding pain from frequent handling." With effective drainage, we think an antiseptic injection of the abscess morning and night, with perhaps an antiseptic drip, but without a "Lister dressing," would have been quite as efficient and much more convenient to patient and surgeon. The patient "in every way seemed to be doing well," "and the appetite improved." To make the drainage better the patient was again etherized, and there was now found to be "a considerable portion of the femur which was laid bare and necrosed." This would be a not improbable effect of the contact of bone with pus.

It may have been only an exfoliation whose separation was to be waited for. But the surgeon here says, "I felt that amputation was our only remaining resource,—an apprehension which in my own mind amounted almost to a certainty." It seems to us that so dangerous an operation as an amputation at the middle of the thigh would hardly have improved the chances of a feeble patient, who was already slowly progressing in the right direction and recovering. Was not a condition of slow improvement the best to be expected under any circumstances?

The patient was now etherized for amputation. An incision was made, when, to quote the operator, "my attention was called, by the resident giving the ether, to the condition of the patient, and by his vigilance we were thus enabled to combat the very onset of the

unfavorable symptoms. I found that the movements of respiration had ceased, and I could find no pulse at the wrist."

At this point let us consider, a little, the circumstances. From the beginning to the end of this account no mention is made of the condition of the pulse before the period when it was found to have ceased to beat. We here reach the kernel of the case. Ether is safe mainly because it gives warning by the pulse. When the patient is getting too much, the pulse becomes weak and slow, not suddenly, but gradually, and in time to avert danger. Or if the pulse at once becomes weak, it is only because the patient is faint and can be easily re-suscitated. If both pulse and respiration could thus suddenly stop, and the patient be found to be beyond recovery, ether would be no better than chloroform, which produces precisely this effect. But with ether this result never happens, simply because the pulse indicates the condition of the patient. This omission to speak of the pulse would lead us to believe that its vital importance as a sign is not recognized in Cincinnati, and that it was by no means "the onset of the unfavorable symptoms" to which attention was first called by the etherizer.

Next as to the measures for resuscitation. With us, after the patient is laid flat, or with the feet highest, a methodical, careful, and persistent artificial respiration is mainly relied on to re-establish breathing; and when this is accomplished the patient, unless an habitual drunkard, or excessively enfeebled by disease or otherwise, is considered safe for the time. An ounce or two of brandy by the rectum, or a few drachms beneath the skin, would be thought enough. In the case under consideration, during the two and one half hours the patient lived, and during which she at first recovered so far as to be placed again on the table for amputation, artificial respiration was soon abandoned. In its place nitrite of amyl and carbonate of ammonia were applied to the nostrils; a galvanic current was tried with good effect; five drops of pure liquor ammonia were injected into the external jugular vein; and finally, during this time, by rectum and by hypodermic injection, the large amount of one and a half pints of brandy were administered. May we not fairly raise the question, What was the narcotic effect of a pint and a half of brandy, administered in two and a half hours, upon a patient already narcotized? Surely this case is not one upon which to base the conclusion already quoted, that the state of anæsthesia (of itself) "is always a condition of danger." At the autopsy "no structural lesions were found to account for death."

One or two points that may be noticed occur in the subsequent discussion upon this case. Dr. Reeve said, "I never draw the patient's tongue out at all." Here, this is one of the measures most relied on in emergency to open the fauces and admit air. The same gentleman correctly says that patients under chloroform may die "like a flash," "from the sudden shock produced upon the nerves." Also, "I claim to be among the first who taught that doctrine in connection, or urged it in connection, with the subject of chloro-

"In some of the more populous towns students were sometimes indulged with the privilege of examining the bodies of those who had died from any extraordinary diseases, and in a few instances associations were formed for pursuing the business of dissection, where opportunities offered from casualties, or from public executions, for doing it in decency and safety. But the Revolution was the era to which the first medical school east of Philadelphia owes its birth. The military hospitals of the United States furnished a large field for observation and experiment in the various branches of the healing art, as well as an opportunity for anatomical investigations."

It was chiefly owing to Dr. Warren's zeal in pursuit of anatomical studies that the Harvard Medical School was organized in 1782. In the winter of 1780 Dr. Warren, who was able to procure a number of subjects from having access to the bodies of soldiers who had died without relatives, gave the first course of anatomical demonstrations ever given in Boston, at the military hospital, which was situated "in a pasture at the corner of Milton and Spring streets, near where the Massachusetts Hospital now stands." These demonstrations were conducted with great privacy, owing to the popular prejudice against dissections. They were attended by a small number of medical students and young practitioners, and a few specially invited scientific gentlemen. In consequence of a vote of invitation, passed November 3, 1781, by the Boston Medical Society, Dr. Warren gave at the hospital a course of anatomical lectures during the winter of 1781-82, which was quite public. Many literary and scientific gentlemen of Boston and several Harvard students were permitted to attend it. "My father," says Dr. Edward Warren, "had so much enthusiasm for his science, he was so full of his subject, that he readily infected others with his own love of the science. President Willard and some of the corporation of the college who attended these lectures were led to the idea of forming a medical institution, to be connected with the university. The president communicated this desire to Dr. Warren. A conference was held, and he was desired to draw up the plan for such an institution, to be submitted to Dr. Willard as soon as convenient." Dr. Warren's plan, as finally amended, was unanimously adopted by the corporation of Harvard College, September 19, 1782. Among the articles adopted were the following: "That three professorships be established, namely, a professorship of anatomy and surgery, a professorship of the theory and practice of physic, and a professorship of chemistry and materia medica."

"That the professors demonstrate the anatomy of the human body with physiological observations, and explain and perform a complete system of surgical operations."

Dr. John Warren was elected to the chair of anatomy and surgery November 22, 1782, and on December 24th of the same year Dr. Benjamin Waterhouse was chosen to fill the chair of theory and practice; while the professorship of chemistry and materia medica remained unfilled till the election of Dr. Aaron Dexter, on May 22, 1783. At that time Harvard professors were required to make the following declaration:—

"I, —, elected professor in the University of Cambridge, declare myself to be of the Christian religion, as maintained in the Protestant communion. I promise to discharge the trust now reposed in me with

diligence and fidelity, and to the advancement of the students in my particular department. I promise to promote the interests of virtue and piety by my own example and encouragement. I declare and promise that I will not only endeavor the advancement of medical knowledge in the university, but consult its prosperity in all other respects."

We shall consider in a future article what it cost Massachusetts anatomists to demonstrate "with diligence and fidelity" human anatomy, at a time when material for the purpose of demonstration could be obtained only by stealth and in defiance of law.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY E. G. CUTLER, M. D.

ALTERATIONS IN THE ALIMENTARY TRACT IN PULMONARY CONSUMPTION.

MAZOTTI² states that in fifty autopsies performed on patients who had died of pulmonary consumption he found lesions of the alimentary tract in thirty-eight; in the remaining twelve no such lesions were present. In thirty-seven of the cases so affected the lesions consisted of ulcers situated either on the tongue, pharynx, stomach, or large or small intestine, but not in the œsophagus or rectum. In all cases, with one exception, the lesions were multiple, ulceration of the tongue, pharynx, or stomach existing simultaneously with ulceration of the intestines. In twelve cases the lesions were confined to the small intestine, in five to the large, while in twenty they affected both viscera. The author observes that in cases where ulceration has been confined to the small intestine the large has frequently contained solid fecal matter, thereby demonstrating a fact already remarked on by Niemeyer, that ulceration of the small intestines may exist without giving rise to diarrhœa. As a rule, the number and extent of the intestinal ulcerations bore a constant relation to the pulmonary lesions. In the small intestine, the ulcers were generally seated in the lower portion of the ileum, although in some cases they were confined to the ileo-cæcal valve, while in others they extended as high as the jejunum, and even duodenum. These ulcers in the earliest stages appeared as small white spherical bodies of the size of a pin's head springing from the mucous membrane. At a later stage they became larger, and the mucous membrane had shrunk away from their summits, thus leaving punctiform ulcers. In some cases the ulcers were situated on Peyer's patches, and were multiple. In the large intestine the lesions were as a rule confined to the ascending colon, though, when numerous, they were also found in the cæcum and around the vermiform appendix. The author remarks on the extreme rarity of tubercular granulations in the large intestine as compared with the small.

ON THE LESIONS OF THE LARYNX IN PULMONARY PHTHISIS.

Dr. Carl Seiler³ finds that ulcerative processes begin in the glands, and not in the mucous membrane, whence come the serrated edges of the epiglottis. The

¹ Concluded from page 521.

² *Bullettino della Scienza Medica*, January, 1880. *London Medical Record*, April, 1880.

³ *New York Medical Record*, June 5, 1880.

depots or foci of pus contained leucocytes, while giant cells have been found only rarely. The author thinks that gastric symptoms are found as often as laryngeal, and that it is an error to attribute to the larynx such pathological changes as determined its separate location as a phthisical habitat.

CONGENITAL ATROPHY OF THE LIVER.

Dr. A. Jacobi, at the meeting of the American Medical Association,¹ read the history of a case of congenital atrophy of the liver. The liver was reduced to one tenth or one twelfth of its normal size. The microscopic examination showed scarcely anything but interstitial tissue, and he believed it to have been a true case of interstitial hepatitis occurring in the infant. Glisson's capsule was greatly thickened, giving the appearance of chronic perihepatitis. A history of the child did not present any positive evidence of syphilis, but the lecturer believed the case to have undoubtedly been of this character. Perihepatitis had been regarded as an adult disease until recently, when several cases have been reported by the German pathologists as occurring in children. As a rule, syphilitic disease gave rise to enlargement of the liver, which, according to Murchison, might be of two kinds: first, gummatous deposits; and, second, diffuse syphilomatous degeneration, which leads to atrophy. Dr. Jacobi also reported a case of syphilitic liver which had recovered, — the only infant that he had known to survive the disease. The child was a year old, and appeared to be healthy. In the treatment, where the evidence of syphilis appears early, a prompt mercurial impression was required, and he had followed Lewin's plan of giving the bichloride of mercury hypodermically, with excellent results.

THE BEHAVIOR OF METHYLGREEN IN TISSUES WHICH HAVE UNDERGONE AMYLOID DEGENERATION.

Curschmann² gives his experience with this staining fluid in a short communication. The coloring matter gives to tissues which have undergone amyloid degeneration an intense violet color, so that they are sharply distinguished from tissues not degenerated, which are stained green or bluish-green.

Fresh sections are stained the best, but specimens hardened in alcohol or chromic acid may be beautifully colored if they are first sufficiently washed out in distilled water. The method of staining sections is the simplest possible. They are placed for a few minutes in a one per cent. watery solution; but the staining is sharper and more even when the sections are left for a longer time in a still more dilute solution. Curschmann has used diluted glycerine and levulose, recommended by Wedel, to put the sections up in. Whether the latter will prove a good material he is as yet unable to say, as his specimens had only been preserved three months. Canada balsam was not suitable, because absolute alcohol, oil of cloves, and oil of turpentine immediately extract and destroy the color. He found that in all the cases of diseased kidneys that he examined the hyaline casts in the tubules were stained ultramarine blue, so that they stood out very plainly from the green parts of the section, and were also not less readily distinguishable from the violet-colored amyloid portions. He considers this staining material to be superior to methylviolet.

¹ New York Medical Record, June 5, 1880.

² Virchow's Archiv, Band lxxix. page 556.

HYPERTROPHIC AND ATROPHIC CIRRHOSIS OF THE LIVER.

Professor Ackermann³ gives a long and interesting article on hypertrophic and atrophic cirrhosis of the liver, which he considers to be two entirely different diseases, neither genetically nor anatomically related to each other. While in the former the development of connective tissue starts from the blood-vessels which belong to the normal anatomy of the liver, in the latter it takes its origin from branches of vessels which are formed as the result of an inflammatory irritation from the interacinous terminal branches of the hepatic artery, and which are to be regarded as capillary shoots of the same. The inflammatory irritation leading to this new formation of vessels and connective tissue is exerted through the cells in the border zones of the acini, which already before the commencement of the cirrhotic disease are constantly undergoing fatty or granular degeneration and subsequent necrotic disintegration. It is then analogous to the irritation of a foreign body, and the inflammation corresponds to processes in the induration of demarkation. As the connective tissue which is formed in such processes contracts, so also does that in the atrophic cirrhosis, and gives rise to deforming cicatrices, as the granulations of the liver resulting from them are to be regarded. In the hypertrophic cirrhosis, on the other hand, the volume of the neoplastic connective tissue does not decrease, but rather remains to the end of the disease unchanged, in case it does not perhaps constantly increase in size. The new growth of connective tissue in atrophic cirrhosis may therefore be designated as an inflammatory growth, that in hypertrophic cirrhosis as an elephantastic one. The atrophic cirrhosis begins with a stage of hypertrophy which is the result of the accumulation of the connective tissue surrounding the acini, and which penetrates either very little or not at all into their substance. Through the pressure which this not yet sclerosed connective tissue exercises on the capillaries in the border zones of the acini and on the interlobular branches of the portal vein, the communication between portal vein and hepatic vein is rendered difficult, and a moderate degree of passive congestion in the commencing portion of the former is brought about, which with the advancing contraction of the connective tissue must still further increase, and finally occasion complete shutting off of the blood of the portal vein from the hepatic capillaries. Then the capillaries of the acini are supplied by blood from the hepatic artery only, which now not only performs the function of the nutritive vessel, but also assumes the function of the vessel which affords bile secretion. In the hypertrophic cirrhosis, on the other hand, the vascular connection between portal and hepatic vein remains perfectly or nearly free throughout the whole course of the disease, and signs of passive congestion in the portal system do not occur, or at least only attain a slight degree (splenic tumor). The hypertrophic cirrhosis is not always unilobular, and the atrophic not regularly multilobular. The latter is also by no means merely interlobular, but rather, save its very first commencement, partially intralobular; it is also usually capsular, and only in a few rare cases, even its later stages, insular.

The occurrence of newly-formed gall-ducts is characteristic neither of hypertrophic nor of atrophic cirrhosis, for they are found in about the same quantity in the one as in the other, and indeed it is highly prob-

³ Virchow's Archiv, Band lxxx. page 396.

able that such is the case in all diseases of the liver complicated with hyperplasia of the connective tissue. They stand genetically in no relation to the rows of hepatic cells which gradually atrophy more and more, and at last disappear without any traces; they also do not anastomose with them, but rather form anew in the neoplastic connective tissue. At the same time with it they can also be injected from the large excretory ducts of the liver, and must be regarded as true excretory ducts for the bile more particularly, preventing or diminishing icterus. They do not anastomose with each other, and form no plexuses, but consist rather of numerous ramifications, frequently arranged in coils and manifoldly twisted.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

NOVEMBER 22, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

DR. WING read a paper on

THE ABDOMINAL METHOD OF SINGING,

which was published in the preceding number of the JOURNAL.

DR. LANGMAID said that he had no doubt that Dr. Wing had hit upon the cause for these cases, and that the effect of this method of singing was so marked in the case which had come under his own notice that he could easily imagine what harm might be done to a perfectly healthy organ. He had never met with cases such as Dr. Wing had reported, in his experience digestive troubles being the result of this method when it was not properly taught. He then explained why this abdominal respiration is used. He said that, the breath being the moving force by which the voice is produced, a knowledge of the proper management of this moving force must sooner or later be acquired by singers and public speakers if they wish to succeed; but both teachers and pupils have mistaken the method, and great confusion has arisen as to the manner of using it. The whole question was reduced long ago to three methods: the clavicular, the lateral, and the abdominal or true diaphragmatic, the latter two running into each other.

Dr. Langmaid then proceeded to give a mechanical explanation of the abdominal method, showing its superiority over the other methods, and stating that so far as his knowledge went no successful great singer uses any other method. He said that he would modify the title of Dr. Wing's paper by calling it the Vicious Use of Abdominal Singing, — a method which, instead of allowing the diaphragm to descend, thus forming a reservoir of air from which the voice can be supplied by the contracting abdominal muscles, actually prevents the descent of the diaphragm, and almost completely takes away the usefulness of the abdominal muscles; for the pupil is first taught to draw the abdomen in, and then squeeze it still more, a proceeding which must be bad for all the abdominal organs.

Dr. Langmaid then said that in a properly-conducted abdominal respiration he recognized a good method for the voice, but that a wrong method must be very harmful.

DR. BAKER said that he had had three cases of uterine disease in public singers, and that he had not before recognized the cause of the displacement. He then said that this continued pressure, as used in the method described by Dr. Langmaid, must be harmful, but that if such great advantage is obtained by the singers using this method they will go on with it, in which case how are we to protect the pelvic organs? Two of his cases were of anteversion and one of backward displacement. They all had to go on singing, and a Hodge pessary did not give perfect relief, but the persistent strain was relieved by a properly adjusted abdominal bandage and an internal support. Dr. Baker then remarked that we may perhaps accomplish more good by a procedure of this kind than by opposing the whole method.

DR. LANGMAID replied that he would not deny that a certain amount of pressure is used, but that it is really more a return of the abdominal muscles to their proper position, and that this can always be reinforced by a collapse of the thoracic wall. He would also say that a tremendous amount of physical force is required of public singers, and that as a class they are the healthiest women in the world; that, however, he would not like to be on record as favoring any position which might do harm; and that if it was necessary for every singer to wear a support and an abdominal bandage they had much better never sing.

DR. BOWDITCH said that he had rarely listened to a more interesting or more important paper. The cases cited seemed to prove the truth of Dr. Wing's assertion that a certain method of teaching music called "abdominal" must tend to press down and misplace the uterus. From the description given, Dr. Bowditch thought that even a protrusion of that organ from the vulva might occasionally occur. The statement was made by the reader that by placing the back against the wall the speaker was able to push forward a large piano by means of the powerful abdominal muscles, thus intimating that such power was to be sought for by a pupil in singing. In many cases such a doctrine would prove most pernicious. Dr. Bowditch regretted that the writer had not given a precise definition of the so-called "abdominal" method. Evidently many modes of teaching are included under that epithet. Some of these may be excellent, whereas others may be fraught with danger. For example, a teacher whom Dr. Bowditch regarded as one of the best of that profession, who has a great power of bringing out the human voice by the harmonious coöperation of all the parts, — abdominal, thoracic, and cervical, — has been considered as one of these "abdominal" teachers, simply because she knows by her experience that no one of her pupils ever succeeds in bringing out the normal capabilities of the particular voice to be trained until she recognizes the special influence of what the teacher styles the "governor," in a small spot about half an inch in diameter just below the ensiform cartilage, and corresponding to the plane of the diaphragm. Some of her friends, having heard of the proposed paper by Dr. Wing, had told her that her method of teaching was to be attacked. Dr. Bowditch read a portion of a letter received from that teacher in the following words: "While I want the lower part of the lungs to be used freely and easily as a baby breathes, you know that my 'governor' cannot make his delicate consciousness felt if there be the slightest conscious contraction of

tion. On the third day he partially rallied, but there was found to be complete hemiplegia with anæsthesia of the left side; this was accompanied by insomnia and obstinate constipation. The right eye became inflamed, and protruded from the socket, the pupil being largely dilated; the inflammation yielded to cold and mild astringent applications. Shortly afterwards the left eye ran through the same course, except that the pupil was contracted instead of dilated. Toward the close there was bulging forwards of both eyes, accompanied by ptosis. There were never any but slight febrile symptoms.

Upon post-mortem examination there was found an aneurism of the right internal carotid where it passed along the body of sphenoid bone to enter the cranium, the bullet forming part of its wall.

The second was the case of B. M., aged about thirty years. On the 31st of July, 1880, he was shot in the left side of his neck with a 22 calibre Smith and Wesson revolver. There was profuse hæmorrhage from the mouth, and when seen, shortly after the shooting, he was cold, unable to speak, and pulseless. A few hours later he recovered his speech, and complained of intense pain in his right arm. Upon further examination, a flesh wound was found in the right thigh, and extensive infiltration and œdema about the larynx, the œdema extending down on to the chest.

August 1st, the pain in the right arm was still intense, but was most severe near the outer end of the right clavicle. At the same time there was found to be complete paralysis of motion in the left arm and leg; sensation, however, was not appreciably affected. The left pupil was widely dilated, but responded to light. It was supposed that the bullet had passed through the pharynx, and had lodged near or upon the axillary plexus.

Twelve days later, August 13th, a small swelling showed itself in the region of the right common carotid; by the 15th it had attained the size of an orange, and had all the signs of an aneurism of the common carotid artery. It was decided to operate, and an incision was made extending upwards from the upper end of the sternum, about five inches along the inner border of the sterno-cleidomastoideus, and also another beginning at the upper end of the sternum, and extending outwards along the right clavicle about three inches. This flap was turned back, the aneurism — a circumscribed false aneurism — exposed and laid open, the finger immediately following the knife and compressing the artery at its opening into the aneurism. The artery was at once tied above and below the opening, and during the whole operation there was but one gush of arterial blood. The operation was performed by Dr. Hodgen, assisted by Dr. Mudd and a number of other physicians. The bullet had passed completely through the artery, making two holes in its walls.

October 14th there was slight hæmorrhage from the external incision. October 20th there was no pulsation at site of ligation, but distinct pulsation in the region of the subclavian. On the 24th there was

another slight hæmorrhage. On the 25th the movements of the left arm and leg were weak, but perfect. The left pupil was still somewhat dilated. Since that time the patient has continued steadily to improve.

— Dr. Hodgen has made a new departure in his treatment of tetanus, namely, giving arsenic hypodermically. The details of the case are as follows:—

On the 14th of September, 1880, C. D., thirty-five years of age, fell about forty feet, producing a comminuted fracture of the thigh and a compound comminuted fracture of the os calcis, the skin covering the os calcis being cut by striking upon a sharp stone.

When first seen the patient was just recovering from shock. Plaster-of-Paris dressing was immediately applied to the foot and leg, and the thigh was treated with Buck's extension apparatus. On the 15th the abdomen was swollen. On the 17th the swelling had extended to the thigh. On the 29th symptoms of tetanus, trismus, and opisthotonos began to manifest themselves. Morphine was given at once. At 12.30 the following day the patient was quite rigid, and had suffered a number of tetanic spasms. Dr. Hodgen gave a hypodermic injection of ten minims of Fowler's solution of arsenic, and ordered thirty grains of chloral every hour if the patient did not rest. At four P. M. the patient was still rigid, but somewhat better, and had taken one hundred and twenty grains of chloral. The hypodermic injection of arsenic was repeated. At eight P. M. there was another spasm, and Dr. Shore, who was in attendance upon the case, injected ten more minims of Fowler's solution. During the night the patient was entirely free from spasms. At ten A. M., October 2d, the injection was repeated, and was followed by vomiting of frothy mucus, probably the result of arsenic poisoning. The following night he passed comfortably, there being no spasms, and the next morning he took food freely. The injection was again used, and after this there were no further symptoms of tetanus; but an abscess developed in the thigh, which was opened, and treated with carbolic-acid washes, and on the 5th the patient died with all the symptoms of septicæmia.

Upon post-mortem examination it was found that the cavity of the abscess extended up along the iliacus internus and psoas magnus muscles to the upper part of the pelvis. The femur was found comminuted to the trochanter minor, and the os calcis comminuted without fracture of the other bones of the foot.

Dr. Shore states, in a note to Dr. Hodgen, that the contractions of the voluntary muscles were arrested; that the spasm of the muscles of deglutition was relieved; that the pains shooting from the sternum to the spine were stopped; that the pulse became full and slower; and that the relief afforded by the injections was so immediate and so great that the patient would request to have them repeated. This case certainly bears very strong evidence in favor of the use of arsenic in tetanus, and it is to be hoped that more extensive trials may be made of it soon. There were no unpleasant local symptoms following its use, and Dr. Shore has since tried it hypodermically in the treatment of chorea, with a successful result.

Miscellany.

LETTER FROM BALTIMORE.

The Official Sanitary Survey of Baltimore. — A Healthy City under Unhealthy Conditions. — A Curious Sanitary Paradox.

MR. EDITOR, — The Baltimoreans are temporarily aroused from their chronic condition of lethargy in regard to the hygienic interests of their city by the report recently published of the survey made by Dr. C. W. Chancellor, a special sanitary inspector appointed by the executive committee of the National Board of Health.

In this work Dr. Chancellor had the valuable counsel of Dr. Chas. F. Folsom, who has, as is well known in Boston, made a special study of public hygiene and sewerage methods, both in this country and abroad.

The report, although not as comprehensive as may be desired, and including only those districts acknowledged to be in the most filthy condition, is, by reason of its plain statement of facts and the curious sanitary anomaly it points out, of great public and very general interest.

Close observation has led the writer to put very little faith in the mortality reports of the United States, and that observation is somewhat corroborated by the report of the American Public Health Association (vol. ii. folio 6) in the statement there made that "only two States, Massachusetts and Rhode Island, have methods of registration giving satisfactory results;" and those familiar with statistical methods know that the death-rate of the principal and nearly all the American cities has been calculated on assumptions as to the growth of the populations since 1870, which the recent census of 1880 has shown to be in most cases exceedingly erroneous.

But be this as it may, the fact remains that the city of Baltimore ranks, by such statistics as we have, among the healthiest cities of the world, and has an apparent lower annual death-rate than a majority of the states of Europe. The greater part of the city of Baltimore lies upon a series of hills, rising in every direction from the river Patapsco, and the arms of the Chesapeake Bay, with elevations of from ten to one hundred and sixty feet above tide.

Four streams traverse the city in a north and south direction, Schoeder's and Chatsworth's runs intersect it on the west, Jones Falls near the centre, and Harford Run on the east.

The city is abundantly supplied with pure water, but has no sewerage system, and no topographical survey has ever been made.

The streams above named have all become either entirely open or partially closed sewers, and nuisances, in a greater or less degree; Jones Falls is an intolerable one, and, in the words of Dr. Chancellor, the "*bête noir*" of Baltimore.

To those who have not an intimate knowledge of the city it may be interesting to note its appearance to a casual visitor or a temporary resident during a warm or dry season.

The better class of houses are provided with cess-pools, varying in depth from ten to seventy feet, the overflow from which, in the minority of instances, is carried by a secret drain into one of the open sewers above named; in the majority, the contents are allowed to saturate the soil beneath the dwellings.

This part of the poisonous work is done slowly and secretly, and is not in the best quarters offensive to the senses; but the sink drains, which discharge their slimy and festering contents openly into the public thoroughfare, either in the front or the rear of the dwellings, while perhaps not as directly injurious to the public health, are extremely unsightly, uncomfortable, and noxious to the pedestrian.

In the more hilly portions of the town these pestilent streams run directly to the open sewers, leaving, in warm and sultry weather, a stench behind. In the more level places, they accumulate in small disgusting and odorous pools until the rain drives them to the "Basin."

The visitor is also surprised by the presence in a nominally clean city of heaps of vegetable and other refuse matter accumulated and decaying in the streets.

The writer has resided here nearly two months, and has not seen a public street sweeper or any indication of one in the public thoroughfares; appropriations are made for this purpose, but are either insufficient or not used. The abutters in the best quarters sweep the street before their doors to the centre, and there leave the refuse to the kindly rain and sweeping winds.

At this season of decay the leaves are left with house sweepings and other accumulations to decompose, to the detriment of the public health.

If this is the condition in the best districts, the state of the thousand alleys, obscure passages, and streets in other parts of the town can be left to the imagination.

The Basin has been mentioned. This, in the words of Dr. T. H. Buckler, one of the most uncompromising advocates of a thorough and complete system of drainage for the city of Baltimore, "ranks high among the stench of the world, and its advocates claim the privilege of turning up their noses at every one whose nose has been made to turn up by it." This Basin is the city dock, in which much of the daily maritime business of the port is transacted: it is a pool three hundred feet wide by eighteen hundred feet in length, and into which the open sewers, Jones Falls and Harford Run, discharge their contents, "intensely charged with the effete products of the population, and for which it acts as a 'catch basin.'" "This, of course, is another established nuisance, and the district about it is well named the 'typo-malarial district.'"

The *Baltimore American* newspaper of June 27, 1880, says of Jones Falls, "The atmosphere in the neighborhood of the bridges (the most populous part of the town) is so poisoned with malaria that a healthy man's stomach is turned by breathing it. From the surface of the water mephitic gases may be seen coming up in bubbles, and the stench is the very essence of putrefaction."

The sanitary paradox of a city of nearly three hundred and fifty thousand inhabitants maintaining a high degree of public health under the conditions above stated, will perhaps be made more evident, if not already sufficiently so, by quoting one or two details from Dr. Chancellor's survey: "The house No. 60 Philpot Street, twenty by fifty feet, contained seven families of eighteen persons. The privy and premises generally were in a very bad condition, and the supply of water was drawn from an old well; but in spite of these facts no sickness or death has occurred among the inmates for more than twelve months." "The house No. 51 Thames Street contained eight families of twenty-nine persons.

Cellar damp; sewer closed up, forming a cess-pool, emitting offensive smells; privy in filthy condition; water supply good. *No sickness during the year.*"

Here are certainly some strong arguments in favor of the "saturation theory," by which the system, having become thoroughly poisoned, is no more influenced by the surroundings in which it was acquired; the poison becoming active only when the conditions are changed by a removal to a healthier locality.

It is not the purpose of this letter to censure, but simply point to the facts of an almost criminal disregard of the most simple laws of hygiene on the part of the people of Baltimore. In the cases quoted above the city code provides for the inspection and correction of such evils, but unfortunately the law is not enforced, and, in the words of the report, "a glance at the condition of affairs in the several districts inspected shows an alarming degree of indifference or negligence in the observance of sanitary laws."

Another element of danger, which the report does not specially notice, is the very large number of private stables attached, or semi-detached, throughout the city. There may be a difference of opinion as to whether stables and manure pits so closely connected with dwellings are detrimental to the public health or not; in any event they do not have a tendency to make the air purer or more agreeable to breathe.

There is in the city a large number of wells. In some districts they are generally abandoned for drinking purposes, but are frequently made to do service as sinks or cess-pools, saturating the surrounding soil; in other districts, the poorer in condition, and the most unhealthy according to our present sanitary knowledge, the water of these foul wells is still used with comparative impunity.

In the first district, the report says, this well water is used "on one hundred and thirty to two hundred premises," without any remarkable result.

Truth is said to lie at the bottom of a well, and with the facts stated in this report before us it seems to be evident that some of the fundamental truths of sanitary science are still there. But however curious and interesting these deviations from what appears to be a natural law are, it would be extremely dangerous and foolhardy to ignore the law itself.

History and our own experiences prove that filth will produce disease sooner or later.

The great present danger of Baltimore is, then, in the existence of the great magazines of disease — Jones Falls, Harford Run, and the Basin, — in the centre of a great population. The danger is latent, but the torch may at any moment be applied, and a scourge as disastrous and fatal as that of London or Florence, Memphis or New Orleans, sweep away the life and property and destroy forever the fair name of the Monumental City.

G. R. S.

CROUP OR DIPHTHERIA?

MR. EDITOR, — The following cases will be of interest to those especially who maintain the identity of true croup and diphtheria: —

On the 3d inst. I was called to a family in an adjoining town who were having a "run" of sickness. I was the second physician for whom they had sent. I found a child, two and one half years old, who had been taken the day previous with difficult breathing. This

trouble had increased until my arrival, when it was exceedingly labored, accelerated, and croupy. Pulse 100, temperature 99° F. An examination of the pharynx showed nothing beyond a little redness. There were no other symptoms. Active treatment was begun immediately, with some apparent advantage; but the benefit was temporary, however, and the child grew worse, and in spite of all that could be done died on the following day with all the signs of asphyxia. Tracheotomy was urged, but denied, as I could not positively assure the parents that it would save life.

Now I think that most practitioners will agree that this was a case of membranous croup, and rest satisfied with the diagnosis: but let me add the following facts: Four days before I was called they had lost a child six years old, who had died with well-marked symptoms of diphtheria. And when I was called a third child was sick, in another bed, with what I unhesitatingly pronounced to be diphtheria. The fourth child, a son nineteen years old, was attacked with the same disease two days subsequently, and had a mild though well-marked run. The two last recovered under treatment. After hearing of the three last cases, which occurred almost simultaneously, it is not hard to say, You had a case of diphtheria. But suppose the first case had occurred alone, what would it have been?

Yours truly,

O. F. HAM, M. D.

NORTH BARNSTEAD, N. H., November 22, 1890.

CONCERNING THE REVISION OF THE UNITED STATES PHARMACOPOEIA.

MR. EDITOR, — At a meeting of the sub-committee on petroleum ointments, held in Philadelphia last Monday, it was unanimously voted to recommend to the committee on revision that a petroleum ointment under the name of "saxolinum" be introduced into the list of articles for the new edition, and that this substance shall have a melting-point of 128° F. (or about 53.5° C.), and that suitable tests for its purity shall be prescribed.

The melting-point of "vaseline" and cosmoline varies from 95° F. to 112° F.

ROBERT AMORY,

Chairman Sub-Committee.

LONGWOOD, BROOKLINE, November 19th.

TO OBSTETRICIANS.

DR. C. S. MINOT desires to obtain a considerable number of human embryos to use in connection with his course of lectures on embryology at the Harvard Medical School. The lectures are to be given in the spring, and Dr. Minot hopes to be able to prepare a series of sections and dissections which will be incorporated in the Warren Museum, as far as they are adapted, for permanent preservation. Dr. Minot therefore requests that those who may obtain specimens they do not wish for their own studies will have the kindness to send them to Dr. Whitney, Harvard Medical School, North Grove Street, Boston, who has kindly consented to receive and take charge of any specimens which may be generously contributed.

The younger stages are particularly sought for, but fetuses of any age will be highly valued and gratefully acknowledged.

THE CHLOROFORM DEATH BILL FOR
TWELVE MONTHS.

In a paper read before the Leeds and West Riding Medico-Chirurgical Society, Dr. Ernest H. Jacob states that during the past year no less than twenty-five deaths have occurred from chloroform,—or rather have been recorded; for, no doubt, many occur which it is convenient and possible to say nothing about. Of these twenty-five, seventeen only occurred in Great Britain. The operations were mostly of the simplest kind: dressing wounded fingers or toes, three; necrosis, four; extraction of teeth, two; amputation of the breast and lithotomy, one each; and one for applying a splint to a child's leg. The deaths appeared to have occurred in the usual way, from sudden syncope. As regards the post-mortem appearances, which are noted in fourteen cases, in five all organs were perfectly healthy; in eight only the heart was more or less "fatty" or "flabby;" and in one there was emphysema of the lungs.

During this period five deaths from other anæsthetics have been recorded: one each from ethylene dichloride and ethyl dibromide, and three from ether. Of the latter, two occurred in America; one during extraction of teeth, no particulars being given, and one during an operation for hip disease, the patient suffering from valvular disease of the heart. The remaining case, the only one in England, was that recently reported by Mr. Hartley, which could not be said to be due to the anæsthetic, as the patient was almost *in articulo* from intestinal obstruction when the operation was begun.

A death from an anæsthetic administered for a trivial operation cannot be regarded, he says, as anything but a serious calamity. It is not for him to say that a grave responsibility rests on the surgeon who employs chloroform when a safer anæsthetic is available, but he thinks it cannot be long before the voice of the profession (if not of the public, as in America) demands some explanation for the use of an agent whose victims are numbered by hundreds.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 20, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	546	225	27.29	13.92	16.90	5.68	1.65
Philadelphia.....	901,380	309	95	17.80	4.53	5.82	1.94	3.56
Brooklyn.....	566,689	261	—	34.10	24.90	16.86	2.30	1.53
Chicago.....	503,298	176	73	28.41	22.16	9.09	1.70	1.70
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	140	44	19.29	5.00	9.29	6.43	4.29
Boston.....	363,988	138	37	20.29	15.94	18.12	1.44	2.17
Cincinnati.....	280,000	90	22	26.67	6.67	8.89	3.33	10.00
New Orleans.....	210,000	112	36	13.39	2.68	6.25	.89	—
District of Columbia.....	180,000	65	9	27.67	15.38	15.38	3.08	3.08
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	55	26	38.18	21.82	3.64	7.27	1.82
Buffalo.....	155,159	58	26	25.86	18.97	5.17	3.45	—
Milwaukee.....	127,000	52	29	38.46	11.54	7.69	19.23	3.85
Providence.....	104,862	33	9	15.15	6.06	9.09	3.03	—
New Haven.....	63,000	28	3	10.72	7.14	—	—	—
Charleston.....	57,000	28	5	10.72	—	3.57	—	3.57
Nashville.....	43,543	11	3	9.09	—	9.09	9.09	—
Lowell.....	59,340	28	14	21.43	14.29	10.72	—	—
Worcester.....	58,040	19	10	21.05	5.26	15.79	5.26	—
Cambridge.....	52,860	15	6	20.00	13.33	26.67	6.67	—
Fall River.....	48,626	23	5	17.39	4.35	8.69	—	4.35
Lawrence.....	39,068	24	9	4.17	—	29.17	—	—
Lynn.....	38,376	15	9	13.33	13.33	6.67	—	—
Springfield.....	33,536	6	2	16.67	16.67	16.67	—	—
Salem.....	27,347	14	3	14.29	—	—	—	7.14
New Bedford.....	27,268	12	1	33.33	8.33	—	16.67	—
Somerville.....	24,964	6	2	33.33	—	33.33	—	16.67
Holyoke.....	21,961	6	0	16.67	—	—	—	16.67
Chelsea.....	21,780	4	2	60.00	25.50	25.00	—	—
Taunton.....	21,145	5	2	20.00	20.00	—	—	—
Gloucester.....	19,288	3	2	66.67	66.67	—	—	—
Haverhill.....	18,478	8	2	37.50	25.00	—	—	—
Newton.....	16,994	10	—	30.00	30.00	—	—	—
Newburyport.....	13,470	4	1	25.00	25.00	—	—	—
Fitchburg.....	12,270	3	—	33.33	—	—	—	—
Seventeen Massachusetts towns.....	141,893	36	10	11.11	11.11	5.56	—	—

Deaths reported 2343 (no returns from St. Louis); 722 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 570, consumption 348, diphtheria and croup 301, lung diseases 273, scarlet fever 85, typhoid fever 55, diarrhoeal diseases 40, malarial fevers 24, small-pox

21, cerebro-spinal meningitis 14, whooping-cough 14, erysipelas 12, measles four. From diarrhoeal diseases, New York 16, Cincinnati and New Orleans four, Brooklyn and Chicago three, District of Columbia and Charleston two, Buffalo, Milwaukee, Lowell, Lawrence, Somerville, and Chelsea one. From malarial fevers, Brooklyn eight, New York and New Orleans six, Balti-

more three, New Haven one. From *small-pox*, Philadelphia 20, New York one. From *cerebro-spinal meningitis*, New York and Philadelphia four, Chicago, New Orleans, Fall River, New Bedford, Haverhill, and Fitchburg one. From *whooping-cough*, New York three, Baltimore, Cincinnati, Pittsburgh, and Providence two, Brooklyn, Lowell, and Salem one. From *erysipelas*, New York, Brooklyn, and District of Columbia two, Chicago, Boston, Pittsburgh, Buffalo, Worcester, and Fall River one. From *measles*, New York, Pittsburgh, Milwaukee, and Worcester one.

One hundred and forty-one cases of diphtheria, 36 of scarlet fever, eight of typhoid fever, two of measles, and two of whooping-cough were reported in Brooklyn; small-pox one,

in Chicago; diphtheria 50, scarlet fever 21, in Boston; scarlet fever 39, diphtheria 23, in Milwaukee; diphtheria five, scarlet fever four, whooping-cough four, measles three, erysipelas two, typhoid fever two, in Providence; diphtheria eight, typhoid fever five, scarlet fever four, in Cambridge; diphtheria 10, scarlet fever one, in New Bedford.

In 36 cities and towns of Massachusetts, with a population of 1,080,642 (population of the State 1,783,086), the total death-rate for the week was 18.70, against 19.68 and 19.54 for the previous two weeks.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Nov. 14	30.162	37	45	31	79	34	53	55	W	W	W	8	8	3	F	F	H	—	—
" 15	29.888	35	40	34	70	90	90	83	S	NW	NW	6	6	5	O	R	F	4.10	.03 ²
" 16	30.243	39	52	28	87	29	54	57	W	SW	SW	4	8	8	C	C	C	—	—
" 17	30.454	41	49	31	79	48	58	62	W	S	S	8	2	5	O	F	O	—	—
" 18	30.059	38	53	29	82	85	79	82	O	S	NW	0	4	17	O	T	C	.25	—
" 19	30.321	29	38	23	61	42	67	57	NW	SE	SE	14	7	1	C	F	F	—	—
" 20	29.829	39	47	26	87	92	91	90	E	SE	W	2	9	11	O	R	O	6.50	1.11
Week.	30.137	37	53	23					W	SE	NW							11.25	1.14

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

² Melted snow.

³ Not measurable.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 20, 1880, TO NOVEMBER 26, 1880.

TAYLOR, M. K., captain and assistant surgeon. Assigned to duty at Fort Wayne, Mich. S. O. 204, Department of the East, November 17, 1880.

BREWER, J. W., captain and assistant surgeon. Died November 15, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the society will be held Monday next, at eight o'clock, in the hall, 19 Boylston Place. Reader, Dr. Fisher. Subject, Habitual Drunkenness. A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Biennial Report of the Officers of the Vermont Asylum for the Insane for the two years ending July 31, 1880. Montpelier, Vt. 1880.

Annual Report of the Surgeon-General United States Army. 1880.

Ophthalmic and Otic Memoranda. By D. B. St. John Roosa, M. D., and Edward P. Ely, M. D. Revised Edition. New York: William Wood & Co. 1880.

Cutaneous and Venereal Memoranda. By Henry G. Piffard, M. D., and George Henry Fox, M. D. Second Edition. New York: William Wood & Co. 1880.

A Practical Treatise on Surgical Diagnosis. Designed as a Manual for Practitioners and Students. By Ambrose L. Ranney, M. D. Second Edition, enlarged and revised. New York: William Wood & Co. 1880.

Chrysophanic Acid as a Remedy in Diseases of the Skin. By C. J. Fox, M. D. Essay read before Connecticut State Medical Society, May, 1880.

Clinical Lectures and Cases, with Commentaries. By Henry Thompson, M. D. London: J. and A. Churchill. 1880.

A Treatise on Diphtheria. By A. Jacobi, M. D. New York: William Wood & Co. 1880.

Medical Heresies historically Considered. A Series of Critical Essays on the Origin and Evolution of Sectarian Medicine, embracing a Special Sketch and Review of Homoeopathy. By Gonzalvo C. Smythe, M. D. Philadelphia: Presley Blakiston. 1880.

How a Person Threatened or Afflicted with Bright's Disease ought to Live. By Joseph F. Edwards, M. D. Philadelphia: Presley Blakiston. 1881.

Twentieth Annual Report of the Medical Superintendent of the State Asylum for Insane Convicts, Auburn, N. Y., for the Year ending September 3, 1879.

Feigned Epilepsy. By Carlos F. MacDonald, M. D. (Reprint.)

The Descriptive Atlas of Anatomy. A Representation of the Anatomy of the Human Body in ninety-two royal 4to Plates. Philadelphia: J. B. Lippincott & Co. 1880.

Diagnosis and Treatment of Ear Diseases. By Albert H. Buck, M. D., etc., etc. New York: William Wood & Co. 1880.

A Manual of Medical Jurisprudence. By Alfred Swaine Taylor, M. D., etc., etc. Eighth American from the tenth London Edition. Edited, with Additional Notes and References, by John J. Reese, M. D., etc., etc. With Illustrations on Wood. Philadelphia: Henry C. Lea's Son & Co. 1880.

The Thirty-Seventh Annual Report of the New York Association for Improving the Condition of the Poor, for the Year 1880. New York. 1880.

Higher Education of Medical Men, and its Influence on the Profession and the Public. Being the Address delivered before the American Academy of Medicine at its Fifth Annual Meeting. By F. D. Lente, M. D., President of the Academy. New York: Charles L. Birmingham & Co. 1880.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERT RATHBLOW, M. D.

FOURTH LECTURE. CHLORAL AND STRYCHNIA; CHLORAL AND PICROTOXINE; CHLORAL AND ATROPIA; OPIUM AND VERATRUM VIRIDE; OPIUM AND GELSEMINUM; OPIUM AND ACONITE; MORPHIA SUBCUTANEOUSLY AND CHLOROFORM BY INHALATION, ETC.

THE discovery of chloral hydrate, and the subsequent announcement of strychnia as its physiological antagonist, made by Liebreich, the lecturer said, had been followed by numerous researches, monographs, and clinical reports; so that the literature of chloral was already vast. He proposed, however, reviewing on this occasion only the work which had been done in the direction of the antagonisms of the agent. Liebreich demonstrated that animals in a deep stupor from chloral intoxication (the dose administered being lethal) were aroused, and death averted, by strychnia. But the most important and elaborate research, undertaken to determine the supposed antagonism of chloral and strychnia, was that of the committee of the British Medical Association, Dr. J. Hughes Bennett, chairman. The committee first, rightly, settled the lethal doses of each agent; they next ascertained the result of the simultaneous administration of chloral and strychnia, and then the result of the administration, at varying intervals, of one subsequently to the lethal dose of the other. Their general conclusions were: First, that after a fatal dose of strychnia life may be saved by bringing the animal under the influence of chloral hydrate. Second, that chloral hydrate is more likely to save life after a fatal dose of strychnia than strychnia is to save life after a fatal dose of chloral hydrate. Third, that after a dose of strychnia producing some tetanic convulsions, these convulsions may be much reduced, both in force and frequency, by the use of chloral hydrate, and consequently much suffering saved. Fourth, that the extent of physiological antagonism between the two substances is so far limited that (1) a very large fatal dose of strychnia may kill before the chloral has had time to act; or (2) so large must be the dose of chloral hydrate to antagonize an excessive dose of strychnia that there is danger from the effects of the chloral hydrate. Fifth, chloral hydrate mitigates the effects of a fatal dose of strychnia by depressing the excess of reflex activity excited by that substance, whilst strychnia may mitigate the effects of a fatal dose of chloral hydrate by rousing the activity of the spinal cord; but it does not appear capable of removing the coma produced by the action of chloral hydrate on the brain.

The lecturer, having given a *résumé* of the researches of Husemann, Rafewski, Erlenmeyer, Arnold, and Oré, of Bordeaux, in regard to the antagonism, spoke of the results of clinical experience, and said that he had found recorded seven cases of strychnia poisoning in which chloral was the chief or only means of treatment employed. He had also found an equal number of cases in which chloroform inhalations had been practiced successfully; and although the latter

did not come within the range of the subject under discussion, yet, as the effects of chloral were attributed by Liebreich to the disengagement of chloroform in the blood, they might seem to illustrate and confirm the former. Of the seven cases of strychnia poisoning in which chloral was the chief or only agent used, all proved successful; and no facts could be stronger. He had been unable to find any cases of chloral poisoning in which strychnia was properly and adequately used, as in animals.

The experiments on rabbits showed that one ninety-sixth of a grain of strychnia was equivalent to fifteen grains of chloral, and in the cases of poisoning in man thirty grains of chloral subcutaneously were sufficient to allay the spasms and avert death. Still, no absolute rule could be laid down, since the susceptibility to the action of these poisons varied greatly in different individuals. As in the published cases emetics had been used, and in many instances the quantity of strychnia had been merely estimated, no conclusions could be drawn from them. Artificial respiration materially retarded the action of strychnia, and warmth, as Dr. Brunton had shown, exercised a remarkable influence in lessening the effect of chloral. Heat would therefore seem to be an antagonist to chloral, and for an obvious reason; for heat increased the action of the heart, and thus opposed the depression of that organ, which was a main factor in the toxic effects of chloral. In the treatment of the toxic effects of strychnia by chloral, the amount of the latter was to be determined by the symptoms. Sufficient should be given to suspend the strychnic spasms, since the danger consisted in the stoppage of respiration by tetanic fixation of the respiratory muscles. In the case of the Sioux Indian treated by Dr. Turner, the quantity of strychnia was not known; but the return of the spasms from time to time required repeated doses of chloral, one hundred and five grains having been given within five hours.

When strychnia was used against chloral poisoning the objects to be accomplished were different. By stimulating the cardiac and respiratory centres with strychnia, the tendency to cardiac and respiratory failure was prevented. The quantity required would be determined by the effects; but it was probably much less than theory would indicate. The initial dose might be one sixtieth of a grain, and each succeeding dose one one hundred and twentieth of a grain; which could be repeated every half hour, or more frequently, until an approximation to the maximum was reached.

In studying the physiological mechanism of the opposed action, he said, a preliminary statement of the main facts in the physiological action of each would indicate the antagonistic points. Chloral, with or without a brief stage of excitement, induced a sopor closely related to natural sleep, and in lethal doses coma and insensibility. In toxic doses, therefore, it suspended the cerebral functions. It acted in the same way on the spinal cord: suspending the reflex functions and mobility, but not destroying sensibility until the cerebral functions had been suspended. It did not impair the contractility of muscle, or the irritability of the motor nerves. The action of the heart was enfeebled, the arterial tension was lowered, and very considerable reduction of temperature was caused. The respiration was slowed, then made irregular and shallow, and finally arrested. Death was caused by paralysis of the heart or of the respiration, or by the simultaneous arrest of both functions.

Strychnia did not affect the cerebrum; consciousness being retained until carbonic-acid narcosis came on. It exalted the reflex faculty of the spinal cord, and was a motor excitant. It stimulated the respiratory centre and the cardiac motor ganglia, and raised the arterial tension. Chloral and strychnia could hardly be regarded as antagonistic in their actions on the functions of the brain, since chloral suspended them, and strychnia did not affect them in any way. In one respect they had opposed effects: chloral producing cerebral anæmia, and strychnia rather increasing the intra-cranial circulation. On the spinal cord the antagonism was very complete: chloral suspending the reflex and motor functions of the cord, and strychnia exalting both. Strychnia stimulated the respiratory and vaso-motor centres in the cord, and thus opposed and contracted the most dangerous tendency of chloral narcosis. The chief danger from strychnia — the tetanic fixation of the muscles of respiration, due to the exalted reflex function — was removed by the action of chloral. This antagonism was more certain and effective than the opposite one, or the stimulation of the chloralized spinal cord by strychnia; whence it followed that chloral was a more useful antagonist in strychnia poisoning than was strychnia in chloral poisoning.

The only published researches on the antagonism between picrotoxine and chloral of any value were those of Dr. J. Crichton Browne, of the West Riding Lunatic Asylum. Picrotoxine was the active principle of *Cocculus Indicus*; but it was not properly an alkaloid, and did not combine with acids to form salts. As regards its physiological action, it had distinct delirious and stupefying effects on the cerebrum, and caused epileptiform or tonic and chloric convulsions followed by coma and insensibility. The reflex functions were suspended by it; finally the motor nerves lost their irritability, and the sensory nerves were early affected, their power to transmit peripheral impressions disappearing in the beginning of its action. Respiration and the pulse rate were increased at first for a brief period, and the temperature also rose slightly; but this preliminary excitement was soon followed by depression, with lower temperature. After the convulsions, especially, the pulse became feeble and irregular, and the respirations shallow and arrhythmic. A comparison of the physiological effects indicated antagonistic action on the cerebrum and spinal cord, but not on the heart and circulation; and a study of the experimental evidence conducted to the same conclusion. Picrotoxine was not used with criminal intent, and its scarcity rendered accidental poisoning by it unlikely. It was probable, however, that the convulsions and cerebral excitement produced by picrotoxine would be prevented or relieved by chloral, though it was doubtful whether the stupor and insensibility induced by chloral would be relieved in the same degree as by strychnia. The experiments of Dr. Browne showed that picrotoxine was to a very limited extent antagonistic to chloral; and an examination into the mechanism of the antagonism showed that it must be confined to a few points, — to the cerebrum and to the reflex, motor, and sensory functions of the spinal cord, — and did not extend to the heart and the respiratory organs.

The antagonism of chloral and atropia was first studied, Dr. Bartholow said, by himself, and the results had been presented in a paper read before the New York Neurological Society in 1875. It had also

been the subject of a special study by Husemann and, to a limited extent, by Fothergill, and had been discussed in a clinical lecture of Volkmann's series by Falck. On the brain and spinal cord these agents were antagonistic, to a certain degree. Atropia lessened the sleep-producing power of chloral, and therefore opposed the depression of the respiratory and vaso-motor centres caused by it. On the spinal cord they acted in a different and, in some respects, an opposed manner. The effect of atropia on the spinal cord and nerves was complex. On the cord it had a tetanizing action, and exalted the reflex irritability, while it had a paralyzing effect on the motor nerves, and lessened the irritability of the sensory nerves. Chloral suspended the reflex function of the spinal cord, and caused a paralysis which was purely spinal, since the irritability of the motor nerves and the contractility of the muscles were left intact. Whilst chloral and atropia were antagonistic in their action on the cord, they both produced motor paralysis. A most obvious and important antagonism existed between the actions of these agents on the circulation and respiration. This was confirmed by experimental trials on animals, and by clinical observation on man.

Whilst the good effects of atropia in preventing death from chloral by failure of the heart's action, or of the respiratory function, were probably very great, the converse was not necessarily true. Although there were no experimental or clinical facts, it was evident that chloral could act only as morphia did under the same conditions, namely, by moderating the strain of the cardiac and respiratory centres produced by the excitant action of atropia. This was a less important service than that rendered by atropia in chloral narcosis, but was, nevertheless, highly useful. The dose of atropia in chloral poisoning and the frequency with which it was to be repeated depended on the effects produced. A small dose, repeated at short intervals until the characteristic effects on the pupil, mouth, heart-beat, and respiration were induced, was better practice than the administration of a large dose at once. The return of reflex sensibility, the improvement in the pulse and respiration, and the dilatation of the pupil were the evidences that the antagonist was producing good effects. When these results were obtained, all that the antagonist could effect was done, and hence to persist in the further use of it, unless the maintenance of the effect was necessary, was to add atropia poisoning to chloral narcosis.

"We have now reached," continued the lecturer, "a very interesting and important department of our subject. From the physiological and clinical point of view alike, it is most useful to know the mutual interactions and reciprocal relations of those remedies which act on the lungs and heart. It is by the extension of our knowledge in this direction that we may hope, by various combinations, to improve the curative powers and enhance the safety of administration of these important enemies." He then took up the antagonism between opium and veratrum viride. The first example of opium poisoning treated by veratrum viride had been reported by Dr. J. S. Todd, of Georgia, and Dr. Haldeman, of Zanesville, Ohio, had also reported successful cases of the same kind. During the past summer and autumn Dr. Bartholow had made a number of observations on rabbits and frogs, which clearly established the antagonism, though the distance apart at which it was exerted had not been definitely ascer-

tained. He next entered into a discussion of its nature or mechanism, and then referred to the clinical experience which was now available on the subject. In the course of his remarks he said that he could not too strongly insist on the difference in the action of medicinal and of lethal doses of opium. In employing opium against the toxic effects of *veratrum viride*, no good could result from the administration of such doses as would rather approximate its effects to those of *veratrum viride*; for it was to be borne in mind that it was the stimulating effect of the one which rendered it antagonistic to the other. The clinical experience was in accord with the results of experiment; and if further investigations confirmed them, the antagonism of the two agents would take high rank for efficiency and extent of its range.

The lecturer next discussed briefly, in succession, the antagonisms which had been found to exist between opium and gelseminum, opium and aconite, and morphia and cocaine, theine, caffeine, and guaranine; after which he took up the subject of morphia and chloroform. As paralysis of the heart or of the respiration, or, it might be, the simultaneous depression of both functions, said he, was the mode of dying by chloroform and by other anæsthetics used for the same purpose, it was extremely desirable to possess an agent which would antagonize and prevent this fatal tendency. Such an agent he considered was possessed in the subcutaneous injection of morphia, and it was an extraordinary circumstance that surgeons had been so indifferent to the remarkable results obtained by the employment of mixed anæsthesia. Claude Bernard and, about the same time, Nussbaum (the one in his laboratory, the other in the clinical theatre) demonstrated the great utility of the method of anæsthesia procured by the injection of morphia and the inhalation of chloroform. Bernard's plan, which was preferable, was to administer the morphia a few minutes before beginning the inhalation; and Nussbaum's to give it after the inhalation was well under way. Morphia and chloroform acted on the same cellular elements of the brain, and agreed in the production of anæsthesia; but they were opposed in their action on other structures and organs, an opposition which rendered their combined use safer. When morphia was injected subcutaneously, before the inhalation of the anæsthetic had been begun, the irritability of the bronchial mucous membrane was so far diminished as to permit the inhalation to proceed quietly; the stage of excitement was prevented, and, consequently, the danger of the asphyxia which occurred under these circumstances; the nausea and vomiting, which interfered with the progress of the inhalation, and which might indirectly produce serious consequences, were also obviated, and the stage of narcosis was prolonged without the need of further inhalation. Personally, Dr. Bartholow preferred to combine atropia with the morphia, when used under these circumstances.

— A death while the patient was under the influence of chloroform, prior to an operation, has recently occurred in the Royal Albert Hospital, at Devonport. Post-mortem examination showed the organs perfectly healthy, but the heart extremely small. It was strongly urged by the surgical witnesses at the inquest that the galvanic apparatus should always be at hand when chloroform was administered.

Original Articles.

THE OWNERSHIP OF PRESCRIPTIONS.¹

BY FREDERIC HENRY GERRISH, M. D., OF PORTLAND.

At a recent meeting of the Maine Medical Association, one of the county societies presented for approval and indorsement a resolution which expressed the belief of that body that prescriptions are the property, wholly and solely, of the physicians who write them. This resolution was laid upon the table. A member, in commenting upon the action, remarked that the resolution was absurd, since it was evident that the prescription belonged to the patient; but another announced as his view that it was the property of the compounding apothecary. Here was the widest possible diversity of opinion among intelligent and educated men, all of whom had much to do with representatives of all the classes named, and presumably were competent to judge of the merits of the case; and it was suggestive of the thought that sufficient attention could not have been bestowed upon a subject, a proper appreciation of whose merits would contribute very greatly to the physical well-being of the community, to the honor of the pharmaceutical profession, and to our own standing and pecuniary advantage. It seems to me, therefore, that this society may profitably devote an hour to the consideration of the ownership of prescriptions.

It will be at once admitted that the prescription must belong to the physician, the patient, or the apothecary. Let us start with the understanding that, unless otherwise specified, each of these names shall represent only one individual: that is, that wherever "physician" occurs it shall apply solely to a medical man who is neither prescribing for himself nor putting up his own medicine; that "patient" shall mean the sick man only, and not the doctor or the druggist; and that "apothecary" shall refer simply to the compounder of the dose, and not to the medical man or the invalid. This discrimination is absolutely necessary that we may avoid the confusion of ideas which prevails upon this subject. We will further suppose that the patient under discussion pays the doctor's fee and the apothecary's bill, and is therefore unquestionably entitled to whatever may be his due from either of them.

First, then, does the prescription belong to the physician? Having prepared himself, at great expenditure of money, time, and labor, for the duties of his profession, he puts at the service of the patient all the skill which the case requires, as far as he can furnish it, and gives him certain advice. A part of this advice, we will suppose, is a recommendation about the administration of medicine, and includes a paper with reference to the preparation of the medicine, directed to some one of a class of men who are competent to execute its provisions. The bill is paid, the commercial transaction between them is over, and the physician has no further control over the recommendation about the medicine than he has over any other part of his counsel. The prescription, whosoever it is, certainly does not belong to the physician.

Does it belong, then, to the patient? Let us bear in mind just what a prescription is. The word includes, in its broadest sense, all recommendations, whether written or spoken, which are made by the

¹ Read before the Cumberland County (Me.) Medical Society.

medical attendant. But in the more restricted and common meaning it is employed to designate a formula consisting of directions to an apothecary concerning the compounding of a medicine. Being nothing but directions to an apothecary, it is of no use to the patient until these directions have been carried out by a competent person. But, whether it is of use to him or not, the question of ownership still remains; for the uselessness of an article has no bearing upon the rightfulness of one's or another's claim to it. To put the thing in a little different and clearer light, without in the least altering the essential features of the case, let us suppose that the physician, instead of writing the prescription, gives the directions to the apothecary verbally; the desired result will be precisely the same as far as the welfare of the patient is concerned, and that, of course, is what the physician is aiming at. The doctor, we imagine, steps out of his office into the next room, which is a pharmacy, and says to the proprietor, "Put up so-and-so for Mr. Blank." The apothecary presently appears in the office with the article ordered, and delivers it to the patient. In this case would the patient ever get the idea that the prescription belonged to him? Would he presume to demand of the physician that the prescription should be committed to writing and given to him? Would he any more reasonably require of the apothecary a revelation of the contents of the medicine bottle which has just been delivered than he would think of bribing or intimidating a servant of the physician's to disclose a domestic secret? Or, to put it in a still different light, fancy that, in this hypothetical case, as in so many real instances, the physician is also apothecary; that, having made his diagnosis, he—for the sake of present precision or future reference—writes his prescription; and that then, in his other capacity of apothecary, he prepares the medicine. Imagine a patient with sufficient assurance to demand the paper which has guided the pharmacist in this case! The demand would inevitably and properly be met with an indignant refusal, for in this instance the proprietorship is obviously not the patient's. He would be told that what he paid for was advice, part of which was for his own edification, part for the instruction of an apothecary; and he would be obliged to retire without the power to injure himself, his neighbors, and his medical adviser with a misapplication of counsel which was probably admirable for him at one time, but might prove fatal at another, when important conditions had been changed.

But, in many cases, it is a fact that the patient does have a certain writing. May he not do with it as he chooses? He is to be regarded as the bearer of a message from a physician to an apothecary, — a message which the sender intended should be delivered promptly. Legally considered, the patient has a right to do as he pleases with the prescription. Undoubtedly, he cannot be compelled to take it to one or another shop, or even to any at all, any more than he can be made to follow the advice of the physician in any other respect. In fairness to the latter, though, he ought to obey his directions in all respects as given, as regards time of taking doses, as well as every other circumstance, or else not consider any sequences in the case as consequences of the consultation. As long, then, as he chooses to retain possession of the prescription nobody can dispute his claim to it; the physician has parted with his advice for money, and, having received his fee, has no control over any part of what

he has sold; and, certainly, no particular apothecary would venture to dispute the patient's right to what he has bought from the physician. The prescription must be regarded as in a transition stage: it is on its way to its destination; is in the hands of the carrier, who differs from an expressman in that he has the choice of parties to whom he may deliver the message, but is like the ordinary carrier in that he experiences no good from his burden until it is put into the hands of such a person as it was intended for. But one may say that the patient may find out what the prescription is, get the materials, and himself put them properly together. Then, however, he becomes apothecary, and, for the time being, technically abandons his character of patient. This way of considering the problem is calculated to confuse the subject somewhat at this stage of the discussion; but it leads us next to investigate the claims of the apothecary.

We started with the statement that the prescription belongs to either the physician, the patient, or the apothecary. Unless there is some grievous fallacy in the reasoning, it has been proved that it does not belong to the first; that the second has a right to it only while carrying it from the physician to its intended destination; and, as it certainly belongs to somebody, by the process of exclusion we would be compelled to resign the paper to the apothecary as his property. But we can come at the result by a plainer and more direct course of reasoning. Generally the prescription goes immediately to an apothecary. He obeys the orders, delivers the medicine, receives his pay, and files away the paper. Has he a right to retain this possession of it? To test this in an emphatic way, suppose that a prescription is presented containing an order for some virulent poison. It is written by a responsible, careful man, who is known by the druggist frequently to order just such agents. The medicine is at once prepared and delivered, and the patient asks to have the prescription. A prudent apothecary will say to himself, "This medicine is dangerous in incompetent hands. The man who ordered it is responsible for any damage which may follow its administration according to his directions. He intended it to be given for a certain time only, and its administration beyond this would probably be injurious. If I give the patient the order for the medicine, he may possibly go to one or an indefinite number of shops and have it filled. Furthermore, to insure my own safety in the matter, I ought to have some guarantee that so dangerous a medicine has been compounded by me only by the express direction of a thoroughly competent doctor. That warrant I have in this written paper. If he had ordered the medicine by word of mouth, I would have insisted upon his putting it in writing for my protection. It is therefore my duty to myself, to the physician, and to the patient to keep it. Better still, as regards the practical question in hand, I believe it to be my legal right to retain it." And he announces his conclusion to the patient, telling him at the same time that he can give him a copy of the prescription, if he desires; for he thinks that no conscientious or even decently cautious pharmacist would compound the prescription without the autograph authority of a reliable medical man. Does any one question the right in this instance?

I admit that the case is extreme, but I insist that it is fair and not at all exaggerated; and if the principle is true in this, why not in every case? It cannot be changed by a decrease in the power of the drug.

If it is, at what point in the list of the *materia medica* is the druggist to be stopped? Up to what medicine or dose will he be justified in retaining the prescription, and beyond it amenable to the law for unjust detention of the property of another? We find it impossible to make a definition of a medicine which shall not include something alimentary on the one side, or something toxic on the other; and so I apprehend we shall find an insuperable obstacle in the way, if we attempt to draw a sharp line up to which the apothecary may go, but beyond which he must not step.

If, then, the prescription belongs to the apothecary, what becomes of certain grievances which we physicians have? We all remember the case which a prominent member of our society recently reported here. He gave a prescription to a woman who had a portion of placenta retained in the womb. The dose was effectual, and the patient, evidently arguing that if it could cause the womb to discharge a piece of after-birth it would be likely to make it eject a foetus, came to the conclusion that she had in her possession a good abortifacient. So she circulated the prescription among her female friends who desired to prevent the annoyance of an increase of family, and, consequently, the possible population of this city has been reduced nobody knows how much. Numbers of foolish and wicked women have doubtless entailed horrid and permanent diseases upon themselves, and the reputation of one of the most conscientious of physicians has been seriously imperiled by means of the misapplication of that one prescription. Recently I heard of a case in which an eminent Portland practitioner had given a prescription for gonorrhoea. The apothecary to whom it was sent is reported to have said that the bottle in which the medicine was first put up has been returned to be refilled some scores of times. It is not generally the original patient who brings it, but almost always some one else,—now one, then another, and so on through the ever-widening circles of acquaintance of the various users of the successful prescription. The label wears out and is succeeded by a fresh one, and the vial goes forth again with its valuable but cheaply bought beneficence for unfortunate fornicators of high and low degree, allaying the painful inflammation in their much-abused urethrae, and cheating the medical profession in general and a certain successful surgeon in particular out of hundreds of dollars every year. These are but illustrations of what every one of us suffers continually.

What the apothecary is doing in all these cases is prescribing over the counter. The case is clear, if we suppose the repeated prescription to be a powerful poison. The patient asks for the drug without a prescription, and does not get it. If he has a prescription he can get it once; and he ought to be able to get it only once, for the second demand is the same as a demand for another agent without prescription, or for some agent for which a prescription can be found in some formulary on the shelves of the apothecary. The fact that the latter had an order from some practitioner for that medicine in behalf of a given patient at a previous time is no more warrant for his putting it up for any patient at any subsequent time than the printed formula in the book is such a warrant. Medically considered, the condition of the patient may have—nay, more, probably has—so changed in the mean time that it is substantially a different case, and the former treatment is no more applicable to that patient than it

would be to almost any other. Nobody knows this better than apothecaries, and the fact is admitted when powerful toxic agents are in question. Wherein is there a difference in principle in the case of the mild-est drug?

Prescribing, in any of its forms, is no legitimate part of the business of apothecaries. In justice to the community, ourselves, and even the apothecaries, we ought to discourage everything of the kind, to discountenance those (especially if they are medical graduates) who manufacture and advertise cures for divers and sundry ills of the flesh. The business of pharmacists is necessary and honorable, and we desire to encourage progress in it by every means. It is so closely allied to our own profession that there is an interdependence between them: neither could exist without the other; each should be careful not to infringe upon the rights of the other. The best work of each can be accomplished if each keeps his place. Let the physician prescribe, the apothecary compound. Thus each will contribute most effectually to the grand end of most benefiting humanity.

"But," some one asks, "may not an apothecary do as he chooses with his own, which you admit that the prescription is which he has compounded?" Undoubtedly he may, in the present state of the laws, even if he chooses to do a grievous wrong to the profession which sends him all the business which entitles him to his name of pharmacist, and to the people who employ his skill and purchase his goods. That is to say, he may, for the purpose of effecting a sale, usurp the place of the physician without possessing the knowledge and skill which alone make the latter valuable or even safe as an adviser, and there is no legal redress. Wretched as this condition of affairs is, I believe we have ourselves to blame for it to a large extent. When we desire a patient to have more of the medicine he has been taking, how almost universally is it the custom to tell him to take the bottle to the apothecary and get it refilled! If, instead of doing this, we would always write an order on the apothecary for a repetition, and request all the apothecaries in our neighborhood never to refill a prescription without written permission from us, the greater part of the trouble would cease at once. We should thus regularly discourage the idea which the people so generally entertain, and which is so injurious to them in its effects, that they are competent to judge when it is desirable to renew the medicine which has been prescribed. We should thus impress them with the idea that we consider the administration of medicine too serious and important a matter to be intrusted to untrained, uneducated hands. But, unless we adopt this course, our complaints of counter-prescribing and patient-medicine vending will be unavailing, and will meet with contemptuous indifference.

I believe that by concerted action physicians may accomplish a speedy reform. Like everything else worth having, however, it can be got only through persistent work and care. To start the movement, I would offer the following practical suggestions:—

(1.) That we, as individuals and as a body which includes a large majority of the reputable practitioners of this county, agree to give specific directions to the apothecary in every case wherein we desire to have a prescription refilled.

(2.) That we give the apothecaries of the county notice of our agreement, and earnestly request them

to refrain from refilling, without the permission of the prescriber, any prescription which hitherto has been, or in the future may be, given by any of us.

(8.) That we withdraw our patronage from any and all apothecaries who shall wantonly violate our expressed wishes in this matter.

THE DISAPPEARANCE OF TUMORS.¹

BY THOMAS DWIGHT, M. D.

THE fact that tumors occasionally disappear, either spontaneously or in consequence of treatment, rests upon comparatively few authentic observations. The claims of quacks, however powerful with the popular mind, tend to make the profession, if anything, more skeptical than they would otherwise be of phenomena which, though rare, are sufficiently well attested. I regret that I am unable to report the following case in as much detail as could be desired. The notes that I took at the time are by no means as full as they would have been if I could have foreseen what unexpected developments were to occur.

The patient, in June, 1877, was a gentleman of about forty-eight, of a weak constitution, without definite occupation, who led a most unhealthy life, going to bed in the small hours, rising towards noon, and taking little exercise. I think it was nearly a year and a half before this, in the winter of 1875-76, though possibly in that of 1876-77, that he consulted me about a trouble in the rectum. This consisted of a sense of fullness and soreness. The patient stated that some years before (seven or eight, I believe) he had had hæmorrhoids, for which he had been treated by a well-known irregular practitioner of the day, who had applied caustics and effected a cure. It should be stated that my patient was of the kind who are easily deceived by quacks, and I am far from convinced that his trouble, of which he thought he was cured in this manner, ever really existed. On examination I found a somewhat hypertrophied fold of the mucous membrane projecting into the rectum. On withdrawing the finger the end of the fold could be brought into sight. It was evidently congested, but did not deserve to be called a hæmorrhoid. There was no occasion for any operation, and in view of the poor condition of the patient I should have been very unwilling to have undertaken one without imperative indications. I recommended an astringent wash and some simple treatment, under which the discomfort subsided.

In the spring and early summer of 1877 the patient was looking very badly, and complaining a great deal of pains and cramps in his legs. His walk was peculiar; descending stairs seemed especially difficult, and there appeared to be a want of coördination of movements.

Though constantly complaining, he was disinclined to submit to a thorough examination. Towards the end of this period pains returned in the rectum with great severity. He described it as feeling as if full of broken glass. There was a sympathetic difficulty in the bladder, which I thought did not empty itself perfectly.

On June 30th he was eating little, very much run down, weak and emaciated, and suffering from such

profuse night-sweats that his night-clothes were completely saturated two or three times a night. A somewhat superficial examination of the rectum revealed a hard swelling in the right wall. I have rarely seen a patient with cancer who presented the characteristic cachexia more markedly than did this patient at about this time.

July 2d. The rectum was thoroughly examined. The mucous membrane appeared perfectly healthy, but a hard tumor was found occupying the right side of the pelvis, extending from near the concavity of the sacrum to the arch of the pubes. It pressed against the rectum so as nearly to close it when empty, but the finger could be passed round the convexity of the tumor. Morphia suppositories of one fifth of a grain were given when required to relieve the severe pain. The patient for some time had been taking six grains of quinine daily.

On July 3d and 4th the patient seemed to be worse, and on the evening of the 4th Dr. R. M. Hodges saw him with me in consultation.

The tumor was as has been described; if anything, larger than when I examined it, two days before. It was decided that an operation was out of the question, and that the case was inevitably fatal.

It should be stated that there had been no chill nor febrile disturbance. The pulse was of fair strength and abnormally slow. The patient was very weak, however, and the night-sweats were very profuse. Oxide-of-zinc pills were given.

July 5th. I decided to try the effect of iodide of potash, beginning with ten-grain doses three times a day. The bowels moved two or three times during the day.

July 6th. Last night two suppositories were required. Sweats rather less, but pulse and strength weaker. The patient vomited after taking the zinc pill.

July 7th. Again two suppositories during the night. The zinc pill again rejected, and it was consequently stopped. The tumor can now be felt through the abdominal walls. Yesterday and to-day attempts at defecation. Yesterday something was passed which patient describes as a little whitish mucus; to-day nothing. Three suppositories in twenty-four hours is now the rule.

July 8th. Tumor more easily perceptible through abdomen. An enema of water brought away a rather loose discharge.

July 9th. Weaker. Unsuccessful attempt at a movement of the bowels.

July 10th. Had profuse night-sweats, but is pretty comfortable in the morning. Enema. Two or three fair discharges, one with a stain of blood. Morning pulse 48, evening, 75. Apparently losing ground.

July 11th. Looks worse than ever. Three operations during day.

On July 12th a change was noticed. There was less pain. Only two suppositories were used in twenty-four hours, and the patient seemed better.

July 13th. He was evidently better, and had a fair appetite.

July 14th. He was still improving, and the iodide was increased to fifteen grains thrice a day. He still took about three suppositories daily.

July 17th. Still improving. No morphia or bromide since 15th.

He continued improving slowly till July 25th, which was an intensely hot day. He suffered very much from the heat, and had two fits of vomiting.

¹ Read before the Boston Society for Medical Observation, November 1, 1880.

There are no more entries in my notes for a considerable time. It was evident that the patient was improving, but I could not believe that there was any real change of condition. I made no examination of the rectum, not wishing to torment him unnecessarily. I thought it right to let him enjoy his respite, feeling that it must be short, and that an examination could only bring distressing knowledge. I advised him to increase the iodide to twenty grains, and saw him but rarely. To my surprise, no relapse occurred. The patient continued to gain, and though feeble and much of an invalid looked, at the end of September, as well or better than he did before the acute attack. He discontinued the iodide, I believe, early in August.

On September 21st I requested permission to make an examination. The rectum seemed perfectly healthy. It was capacious. There was no tumor and no tenderness.

The patient during the next winter seemed better than usual, but during the summer of 1878 his health declined, and in the autumn it was evident that he was suffering from some grave abdominal trouble. The liver was greatly enlarged; he suffered much from nausea and vomiting, became deeply jaundiced, and died November 29th. The symptoms were quite obscure, and I was inclined to believe that there was malignant disease. A few weeks before his death he again complained of a fullness in the rectum, and on examination I thought I found some undue hardness on the right side. It was nothing, however, of much importance, and my attention was not again called to the rectum in the course of the disease.

The autopsy, made by Dr. E. G. Cutler, revealed that the cause of death was inflammation of the liver. No signs of malignant or venereal disease were discovered. The rectum was carefully examined. The mucous membrane was healthy, and no cicatrix or hint of any opening in it could be found. At each side of the rectum below the lateral reflection of the peritonæum there was a mass of what appeared to be dense hypertrophied connective tissue. This view was confirmed by Dr. Cutler's microscopic examination. The mass on the right side was the larger, and perhaps two thirds of the size of a hen's egg. There were no other signs whatever of an old abscess or of a tumor.

As I have already stated, the record is wanting in many points of detail, but the central fact is beyond question, supported as it is by Dr. Hodges' observation as well as my own, that there was a large hard tumor in the pelvis; and it is also certain that it disappeared. As to its position, though I could not assert that it did not involve the walls of the gut, I believe it to have been external to it. As to its nature, without going into details of the histology of tumors, it may have been one of three things: an abscess, a new growth, or an engorgement of the areolar tissue with blood and cellular elements either from the blood or the connective tissue. The peculiar pain, as of broken glass, is, I think, very characteristic of suppuration, but I am inclined to exclude abscess on account of the absence of fever, which would have been expected when the patient was at his worst; on the contrary, he had a low pulse, was clammy, and almost collapsed. If the abscess had burst, it is hardly credible that its contents could have been completely evacuated at once, so as to have been mistaken for a fecal evacuation. There would have been at least a little discharge for some time that could hardly have escaped notice;

probably, also, the bowel after death would have presented the lesion. It is true that even a large abscess may be absorbed. The *New York Medical Record* of March 13, 1880, contains an account of a curious case mentioned by Dr. Sands while presiding at a meeting of the New York Surgical Society. The case was that of Dr. Hubbel, who left directions that his body should be dissected. "Several years before his death he came to Dr. Sands complaining of a swelling in the left loin, and there was no difficulty in detecting a large fluctuating tumor over the region of the kidney, and extending down to the crest of the ilium. Dr. Sands was uncertain whether the fluctuating swelling had any connection with the urinary passages. Tapping was mentioned, but Dr. Hubbel being somewhat advanced in years, and knowing the possible mischief that might accrue, avoided the operation, and passed from under observation for nearly a year, and at the end of that time he reported himself, saying that he was well. While under observation the abscess extended, and evidence was obtained of matter burrowing down upon the buttock, three or four inches below the crest of the ilium; and it also extended upward to the free border of the ribs, but at the time he reported himself it had entirely disappeared. He subsequently died of Bright's disease. Dr. Sands examined the body very carefully, dissected the left lumbar region, but discovered no abscess. A great deal of connective tissue was found, in which it was difficult to recognize the remains of the kidney. The ureter was imbedded in this mass, which infiltrated the loin, and was impervious down to its junction with the bladder."

Turning from the theory of abscess to that of tumors, the question of syphilis naturally presents itself. I excluded it, because I never recognized any symptom of it during life or after death.

There seems to be little doubt that tumors of various kinds do, though very rarely, disappear without surgical interference. I was induced in this case to give the iodide of potash by seeing a passage from Holmes's Surgery, quoted in Bryant's, in which it is stated that Dr. Esmarch, of Kiel, told Paget that he had seen cases of recurrent fibroid tumor cured, and not again returning, in patients who took large doses of this drug for several weeks. Many of my hearers very probably remember a remarkable case of so-called Inflammatory Fungoid Neoplasm, reported by Dr. Duhring, of Philadelphia. This case appeared in the *Archives of Dermatology* for January, 1879, and a supplement to the case a year later in the same journal. In brief, a woman, otherwise healthy, for some two and a half years before her death had a great number of tumors, chiefly in the chorium or subcutaneous tissue, which presented the most surprising variations of size, sometimes entirely disappearing. The microscope showed them to consist essentially of a hypertrophy of the fibrous elements of the chorium and a varying amount of granular and other cells.

Dr. Coats exhibited for Dr. Gairdner specimens from a similar case before the London Pathological Society in April, 1879. The tumors were found also in the connective tissue at various places inside the abdomen. The growths were held to be lymphadenomatous. Sir James Paget made some remarks in the discussion which deserve to be reproduced. He said "the report of such a case was useful, as likely to help in the explanation of those rare instances in which tumors diagnosed to be cancerous had disappeared after a

time. He suspected that there was a greater number of such cases on record than might be imagined, and the collection of them would be an interesting and important undertaking. Three cases of the disappearance of tumors in this way were known to himself. One was in the person of a young man who had suffered for two or three years from what appeared to be ordinary lymphadenomatous growths, there being clusters of enlarged glands in the neck, axilla, and groins. The patient had also paraplegia, a symptom he had found in another case of lymphadenoma. Within a week these tumors all suddenly disappeared, but the patient then began to suffer from dyspnoea, and soon afterwards died, no autopsy being allowed. Another case, mentioned in his lectures at the College of Surgeons, was regarded as one of multiple medullary cancer (what would now be called small-celled sarcoma), and the microscope corroborated this diagnosis. The growths occurred on the neck and axilla. There was a very large mass over one deltoid, which suppurated and sloughed, during which process nearly all the other growths disappeared. The man recovered, and enjoyed good health for some months, but the growth afterwards recurred and caused death. The third case was one which he had diagnosed as medullary cancer of an undescended testis. There was a tumor as large as two fists, and he had prescribed liquor potassæ and iodide of potassium, under which treatment the mass soon entirely disappeared. In eight or ten weeks, however, it recurred, but disappeared again under the same treatment. This also happened a third time, but having recurred a fourth time it was no longer amenable to treatment, and the patient died. The microscope confirmed his original diagnosis as to the nature of the growth." Other gentlemen mentioned somewhat similar cases.

An interesting paper on the sudden disappearance of tumors, by Dr. Fischer, of Breslau, is to be found in the *Deutsche Zeitschrift für Chirurgie*, vol. xii., 1879. Dr. Fischer calls attention to the fact that in certain very prostrating diseases tumors of some kinds suffer a great reduction in size, and among these are sarcoma, adenoma, and swellings of lymphatic glands. On the other hand, carcinoma, lipoma, fibroma, and some other tumors are not affected under like circumstances. The cases he reports are chiefly ones of enlarged lymphatic glands and of enlarged thyroids. Some of the glandular tumors were greatly affected by the removal of other tumors. One of the enlarged thyroids returned to its proper size during a light attack of scarlatina.

To return to the case I have reported, if I am justified in excluding abscess and syphilis, what remains? Many, I suppose, would object to the tumor being classed among the sarcomata on the ground that if it had belonged to that group it would not have disappeared. This, however, is begging the question. The engorgement of the liver had no doubt already begun before the time of the tumor. The direct venous connection of the liver with the rectum favors the production of hæmorrhoids when there is an obstacle to the circulation, but it is perhaps not impossible that through some peculiarity of the vascular distribution this effect took place in this instance around the rectum instead of in its walls. This explanation, I admit, is barely satisfactory to myself, but the masses of hypertrophied connective tissue beside the rectum suggest the sponge-like framework of an inflammatory growth, into the meshes of

which cellular elements might make their way, causing a great expansion, which would disappear on their withdrawal. Is this process essentially different from the development of a sarcoma? Billroth remarks that if any one wishes to define the inflammatory new formations in their different stages as types of sarcoma he is ready to agree to it. Whether the disappearance of the tumor was due to the use of the iodide of potassium is of course a matter of speculation; the tumors in Dr. Duhring's case disappeared without it. Still, under similar circumstances, I should certainly try it again.

MASSACHUSETTS LAWS REGARDING ANATOMICAL SCIENCE.

BY E. M. HARTWELL, M. A.,

Fellow of Johns Hopkins University.

It is not yet one hundred years since Dr. John Warren delivered the first course of public anatomical lectures ever given in Massachusetts, in compliance with a vote of invitation passed by the Boston Medical Society, November 3, 1781. It is scarcely fifty years since the Massachusetts Medical Society began to agitate the question of legalizing the study of anatomy. The Harvard Medical School, in the ninety eight years of its history, has had but three professors of anatomy, namely, Dr. John Warren, professor of anatomy and surgery from 1782 till 1815, when he died; Dr. John C. Warren, professor of anatomy and surgery from 1815 to 1847, when he resigned; and Dr. Oliver Wendell Holmes, professor of anatomy, who, like the elder Warren, has held his chair thirty-three years.

Dr. John Warren's son and successor, Dr. John C. Warren, was three years old in 1781, the year the Massachusetts Medical Society was incorporated. Fifty years later, as one of the most prominent members of that society, February 2, 1831, he lectured before the members of the Massachusetts legislature, in the representatives' chamber, on the Study of Anatomy, in accordance with a vote of the house of representatives, passed January 29, 1831. At the time of this lecture the anatomy bill, which became a law on the 28th of that month, was still pending.

No better testimony concerning the obstacles which beset the pursuit of anatomical science during those fifty years can be given than is found in the Biographical Notes of Dr. John C. Warren, from which we quote: "No occurrences in the course of my life have given me more trouble and anxiety than the procuring of subjects for dissection. My father began to dissect early in the Revolutionary War. He obtained the office of army surgeon when the Revolution broke out, and was able to procure a multitude of subjects from having access to the bodies of soldiers who had died without relations. In consequence of these opportunities he began to lecture on anatomy in 1781. After the peace there was great difficulty in getting subjects. Bodies of executed criminals were occasionally procured, and sometimes a pauper subject was obtained, averaging not more than two a year. While in college I began the business of getting subjects in 1796. Having understood that a man without relations was to be buried in the North Burying-Ground, I formed a party. . . . When my father came up in the morning to lecture, and found that I had been engaged in this scrape, he was very much alarmed, but

when the body was uncovered, and he saw what a fine, healthy subject it was, he seemed to be as much pleased as I ever saw him. This body lasted the course through. Things went on in this way till 1807, when, with the coöperation of my father, I opened a dissecting-room at 49 Marlborough Street. Here, by the aid of students, a large supply of bodies was obtained for some years, affording abundant means of dissection to physicians and students. In the mean time, however, schools began to be formed in other parts of New England, and students were sent to Boston to procure subjects. The exhumations were conducted in a careless way. Thus the suspicion of the police was excited; they were directed to employ all the preventive measures possible, and watches were set in the burying-grounds. Thus the procuring of bodies was very much diminished, and we were obliged to resort to the most dangerous expedients, and, finally, to the city of New York, at a great expense of money and great hazard of being discovered. Two or three times our agents were actually seized by the police, and recognized to appear in court. One or two were brought in guilty, and punished by fine, but the law officers, being more liberal in their views than the city officers, made the penalty as small as possible. Constant efforts were necessary to carry on this business, and every species of danger was involved in its prosecution. . . . At that time scarcely any exhumation occurred without accidents of the most disagreeable and sometimes painful character. The record of them would make a black-book, which, though the odium of it should belong to few individuals, would do no credit to the enlightenment of Boston in the nineteenth century, and convey an idea of the state of feeling of a professor of anatomy on the approach and during the course of his anatomical pursuits.

"Sometimes popular excitement was got up, and the medical college threatened. I had reasons, at some periods, even to apprehend attacks on my dwelling-house. Whenever the lectures approached, a state of incessant anxiety came with them. At length the pressure was so great that it was resolved to make an effort in the legislature, though with little hope of success."

If it were necessary, evidence to corroborate that of Dr. Warren might be indefinitely multiplied from the published and unpublished traditions of the elders. We content ourselves with the mention of one episode. About 1820 a highly respectable physician of Eastern Massachusetts, being detected in anatomical pursuits, was obliged to flee the State. In a distant community, which to this day has no anatomy act, he won eminence as a teacher of anatomy and practitioner of medicine.

Dr. H. I. Bowditch, in his *Life of Amos Twitchell, M. D.*, treats fully of the condition of affairs in New England, when the law said, as he puts it, "A man who is found with a body in his possession for the purpose of dissection shall be considered guilty of a felony."

It was chiefly due to the efforts of the Massachusetts Medical Society that Massachusetts, in 1831, was induced to anticipate all English-speaking states in the enactment of a liberal law regarding anatomical science. The first definite action of the society seems to have been taken by the counselors February 4, 1829, when, on the motion of Dr. A. L. Peirson, of Salem, a committee, consisting of Drs. John C. Warren, E.

Alden, and A. L. Peirson, was appointed "to prepare a petition to the legislature to modify the existing laws which now operate to prohibit the procuring of subjects for anatomical dissections." Previous attempts, however, seem to have been made to weaken popular and legislative prejudices. Public attention had been forcibly called as early as 1820, in the case of the physician above alluded to, to the unsatisfactory working of the law of 1815, "to protect the sepulchres of the dead." It is said that a year or two later a private teacher of anatomy, in Boston, found, one morning, on his dissecting-table the body of a prominent actor, then recently deceased. The anatomist, who had been a particular admirer and friend of the actor's, caused the body to be returned to the tomb, under Trinity Church, from which it had been stolen, and acquainted the authorities with the circumstance. This occurrence seems never to have been made public, but the physicians and authorities agreed that the laws must be amended. Doubtless they concluded that the public must be enlightened before anything could be gained from the legislature, for in 1825 Wells and Lilly reprinted in pamphlet form an article on *The Importance of the Study of Anatomy*, with some Additional Remarks, from the *Westminster Review* of 1824. Some writers allude to efforts before the legislature in 1828, but we have found no documentary proof of any legislative action previous to that in the house of representatives, February 3, 1829, when the committee on the judiciary was instructed, on motion of Mr. F. A. Packard, of Springfield, "to inquire into the expediency of making any farther legal provisions to protect the sepulchres of the dead from violation." In accordance with these instructions, on February 14th the committee reported a bill, which, on being read a second time, February 24th, was indefinitely postponed, on the motion of Mr. Thomas B. Strong, of Pittsfield. The secretary of the Massachusetts Medical Society at this time was Dr. George Hayward. In the *North American Review* for January, 1831, he says that this proposition, above noted, to mitigate the severity of the law "was hardly listened to with decency; members seemed anxious to outdo each other in expressions of abhorrence; and the bill was not even allowed a second reading."

History repeats itself in the case of anatomy acts no less than in other departments. In 1866, an anatomy bill, after passing the Pennsylvania house of representatives, was withdrawn from the senate of that State, because a too influential member of that body objected to it as being "unworthy of the age in which we live." The next year, however, when it was made manifest that "the bodies of distinguished legislators themselves, after a life full of good works, were no longer safe in their graves," both senate and house passed "An act for the promotion of medical science, and to prevent the traffic in human bodies, in the city of Philadelphia and the county of Allegheny."

At the annual meeting of the Fellows of the Massachusetts Medical Society, June 3, 1829, the committee of three, appointed by the councilors in February, reported that it was inexpedient to act upon the petition prepared by them to be presented to the legislature. After a full discussion of the report, it was agreed to refer the whole subject to a committee of nine. The committee was requested to report at the October meeting of the councilors; and the councilors were authorized to take such measures as they might deem

necessary in behalf of the society. The following-named gentlemen were chosen to serve on this committee: Drs. A. L. Peirson, of Salem; John C. Warren, John D. Wells, John Ware, William Ingalls, and George C. Shattuck, of Boston; Nathaniel Miller, of Franklin; Nehemiah Cutter, of Pepperell; and John Brooks, of Bernardston. When the councilors of the society met, October 7th, the committee reported that on September 1st a circular letter to the Fellows of the society had been issued, "with a view of advancing the objects proposed by their appointment," and they recommended to the councilors to cause a petition to be prepared and presented at the winter session of the general court. It was voted to continue the committee, and to authorize it to incur an expense not exceeding one hundred and fifty dollars.

The circular letter, dated Salem, September 1, 1829, and signed by all of the committee excepting Dr. Miller and Dr. Cutter, may be found, printed in full, pages 500 to 502, of the Boston Medical and Surgical Journal for 1829-30, vol. ii. part 2.

The letter solicits the aid of every influential member of the society in removing the popular prejudice against dissection, "especially as it exists in the minds of members of the legislature." The points upon which it was intended to rely in the proposed petition to the legislature are as follows: "(1.) Anatomical knowledge is absolutely necessary in all branches of our profession. (2.) This knowledge can only be acquired by dissection. (3.) So far as the poor are concerned, it is for their especial benefit that all physicians should learn anatomy thoroughly. (4.) It is believed that the diseases and lameness of many paupers have passed from a curable to an incurable condition for the lack of surgical skill, which could only have been derived from a knowledge of practical anatomy. (5.) All lovers of good morals must feel desirous to prevent the growth of a body of people who make it a business to violate the sepulchres of the dead. (6.) The public, as a body, have a greater degree of interest in this matter than even physicians." The Fellows are urged to lay the subject before the members of the legislature with whom they may be acquainted, and to inform the committee, before October 1st, concerning their own views and the course of public opinion in their vicinity.

The petition authorized by the councilors, and alluded to by the committee in the circular, which was probably written by Dr. Peirson, seems to have taken the shape of an Address to the Community on the Necessity of legalizing the Study of Anatomy: By order of the Massachusetts Medical Society. In the address, which covers twenty-seven pages, and bears the imprint of Perkins and Marvin, Boston, 1829, the points of the Salem circular are amplified and enforced. The address is noticed in the *American Journal of Medical Sciences*, vol. vi. p. 210, by Dr. W. E. Homer, of Philadelphia, who characterizes it as "a candid and open exposition of difficulties, and of the means of relieving them." "It is," he says, "a statement directly to the point, and must have weight if common sense and common philanthropy are to be arbiters. It proposes that the legal restrictions upon dissections shall not apply in the case of individuals who have no living relatives, and who have been kept at the public expense." Dr. George Hayward declares that "this address made a deep impression on the thinking part of society, and wrought a marvelous change in public opinion." At their meeting on February 3, 1830, the

councilors of the Medical Society authorized the committee of nine to print a new edition of not more than ten thousand copies of the Address to the Community.

Meanwhile, on January 22d, in accordance with a motion made by Mr. Mason, of Boston, in the house of representatives, the committee on the judiciary had been instructed to inquire into the expediency of farther legislation for the protection of sepulchres. The judiciary committee consisted of Messrs. L. Saltonstall, of Salem; L. Shaw, of Boston; Newton, of Worcester; Mann, of Dedham; and Whitman, of Pembroke. Mr. Saltonstall, the chairman, made a detailed report February 25, 1830, in which it was recommended that the farther consideration of the matter be referred to the first session of the next legislature. The report lay upon the table till March 11th, when it was taken up, accepted, and ordered to be published in the "newspapers which print the laws of the commonwealth." This report is printed as "No. 51, House Documents, pp. 756-764, Documents of Massachusetts, Political Year 1829, and January Session 1830." The report is eminently liberal in spirit and judicial in tone, and is written clearly and concisely. Although the committee reach the conclusion that the existing law, that of 1815, is unfair to the medical profession and inconsistent with the best interests of the community, they refrain from proposing any alteration of it, believing that public opinion has not become sufficiently enlightened to warrant such action.

Governor Levi Lincoln, in his address to the legislature, delivered May 29, 1830, at the opening of the summer session, declares that the frank and manly representation by the medical faculty of the embarrassments and difficulties of acquiring a knowledge of anatomy deserves the most respectful regard. "It may be," he says, "that this subject is of a nature too delicate for direct legislation. But the public mind should be instructed in its interesting importance. Let it be shown that the knowledge which is sought in the science of anatomy concerns all the living, and that without it the accidents and ills of life which art might remedy are beyond relief. Let the reason of men be addressed, and prejudice be dispelled, by information and the force of argument. It may then come to be understood that a community which demands the exercise of skill and denies the means to acquire it, which punishes ignorance and precludes the possibility of removing it, is scarcely more compassionate than that Egyptian harshness which imposed the impracticable task in cruel oppression of the inability to perform it. . . . It is not my purpose to propose any definite act for your adoption. I would commend the subject only to the discreteness of your counsels."

On May 31st, Mr. John Brazer Davis, of Boston, moved in the house of representatives, and it was ordered, "That so much of his excellency the governor's speech as relates to a modification of the laws in relation to the study of anatomy be referred to a select committee." The gentlemen chosen to act as such committee were Messrs. J. B. Davis of Boston, G. Willard of Uxbridge, A. Hutchinson of Pepperell, L. W. Humphreys of Southwick, and J. B. Flint of Boston. The day after their appointment the committee reported through Mr. Davis that the subject be referred to the next session of the legislature, and the report was accepted.

At the annual meeting for 1830 of the Fellows of the Medical Society, held June 2d, Dr. George Hay-

ward offered the following preamble and resolutions, which were unanimously adopted: "The Fellows of the Massachusetts Medical Society, having a deep conviction that a knowledge of anatomy is essential to the education of a physician as well as a surgeon, and being fully convinced that this knowledge can only be obtained by actual dissection of the human body, which is in a great measure prevented by the existing laws of this commonwealth, do therefore

"*Resolve.* 1st. That they regard with peculiar satisfaction the remarks of his excellency the governor on the subject, in his recent communication to the legislature, and the appointment of a special committee in relation to this business by the senate and house of representatives, and hail them as the harbingers of a more liberal and enlightened policy.

"2d. That they will use all proper means in their power to diffuse more correct information in regard to the necessity of anatomical knowledge than now exists, and to convince their fellow citizens that the members of the medical profession have no interest distinct from that of the community, in their attempts to legalize the study of anatomy, but that in so doing they are laboring to advance the cause of science and humanity.

"3d. That they cordially approve the course that has hitherto been adopted by the councilors with the view of advancing the object, and they request them to adopt such other measures as they may deem proper and expedient to accomplish the wishes of the society."

It is implied in the action of the councilors, who met June 3d, that the committee of nine was discharged, for it was then voted "That a committee of five be appointed to attend to the subject of legalizing the study of anatomy." Drs. John C. Warren, George Hayward, A. L. Peirson, George C. Shattuck, and John Ware were chosen on this committee. A grant of funds was made them, and they were authorized to petition the legislature "in the name of the society, should they deem it expedient." At the October meeting of the councilors, Dr. William Ingalls and Dr. Joshua B. Flint were added to this committee.

(To be continued.)

REPORT ON PHARMACEUTICAL PREPARATIONS.

BY B. F. DAVENPORT, M. D.

MORPHIA SOLUTION.

SOLUTION of morphia for hypodermic use will be greatly prevented from decomposition, on keeping, if heated to boiling when made, and, if not objectionable, a fragment of camphor added before the boiling.¹

MORPHIA TARTRATE.

The new preparation of neutral morphia tartrate, being very soluble, passes quickly out of the system, and gives less unpleasant after-effects than the other salts. Its great solubility makes it particularly advantageous for hypodermic injection. It gives little smarting or irritation when thus administered, and the solution never clogs the finest needles.²

A PERFECT SOLUTION FOR SALICYLIC ACID.

Take of salicylic acid one ounce plus eight scruples, of potass. citrate two ounces, of glycerine eight ounces,

¹ Pharmaceutical Journal.

² American Journal of Pharmacy.

of simple elixir sufficient to make up one pint. Dissolve the citrate in the glycerine with the aid of gentle heat, and then stir in the acid, maintaining the heat till all is dissolved; when cooled the elixir is to be added and the mixture strained. It will contain five grains of the acid to the fluid drachm, and is miscible with water in all proportions without the separation of any of the acid.³

DISGUIISING THE TASTE OF EPSOM SALTS.

That the essence of mint completely masks the disagreeable taste of magnesium sulphate, providing that the quantity of the vehicle is inconsiderable, is shown from the fact that "purgatif yvon" consists of magnesium sulphate, twenty grains, dissolved in forty of water, to which two to three drops of essence of mint have been added.⁴

DISGUIISING THE TASTE OF CHLORAL.

Chloral administered in a syrup of gooseberries, with the addition of a drop of chloroform for each grain of the chloral, is reported to be deprived of its disagreeable taste.⁵

THE IRON OXIDE ANTIDOTE FOR ARSENIC.

The following method of preparing this antidote for arsenic is not generally known. It claims attention because that the ingredients are readily obtained, and the antidote can be very quickly prepared from them. Into a solution of common cooking soda, of about a tablespoonful of the salt to the gill of water, pour any of the official solutions of a ferric salt, such as the tincture of the chloride, just so long as it produces any precipitation. The resulting precipitant, in the case of tincture of the chloride of iron having been the iron solution used, being the ferric hydrate in a solution of sodium chloride, will not require to be filtered, or prepared further in any way, but may be taken almost *ad libitum*. Given in this manner, the salt in the solution may excite vomiting or purging, and thus of itself have a beneficial action. If prepared as above directed the arsenic cannot be rendered more active by being brought into solution, as it would be in the presence of either the alkali or acid of the unsaturated solutions.

SALICYLATE OF QUINIA.

Mr. Deardon has published in the *Lancet* of May, 1880, a formula for an extemporaneous preparation of salicylate of quinia, which is as follows: Take of salicylic acid one drachm, disulphate of quinia ten grains, simple syrup one ounce, stronger liquor ammonia one drachm, water sufficient to make up twelve ounces. The acid and quinia are put into the bottle with about two thirds of the water, and briskly shaken for a few moments. It is allowed to stand a while uncorked, and the ammonia is then added, and, finally, the syrup and the rest of the water. A few drops more of ammonia may be required to get a perfectly clear solution. It is necessary to remember that only the natural salicylic acid should be used, or, at all events, salicylic acid freed from the other acid usually present in that prepared from carbolic acid. It is impossible to say, until more is known of this other crearyl-salicylic acid, how far the cases of poisoning by salicylic acid and the salicylates may be due to its

³ American Journal of Pharmacy.

⁴ Gazette des Hôpitaux.

⁵ New York Medical Record.

presence in the commercial salicylic acid. Dr. A. Hewan states that, while toxic effects, more or less serious, have resulted from the administration of salicylic acid and its soda salt in doses thought necessary to reduce the temperature, none whatever have hitherto followed the free use of the quinia salicylate, and greater benefits have been derived from it. A recent analysis of the pansy has shown that the plant contains salicylic acid, which may account for its reputed therapeutic action.¹

ARTIFICIAL QUINIA.

Cinchonia may, perhaps, at some time be used as a stock for making quinia artificially. By the discovery of the artificial production of quinoline, which had previously been known only as a decomposition product of cinchonina, cinchonidia, etc., an important step has been made towards the manufacture of artificial quinia. The quinoline has been prepared by heating together nitro-benzole, aniline, glycerine, and sulphuric acid. The problem of the artificial production of the cinchona alkaloids is being assiduously studied in the university laboratories of Berlin, Munich, and Vienna.²

SULPHATE OF HYOSCYAMINE.

A neutral sulphate of this alkaloid is now manufactured in Germany. As being readily soluble in water, it should by all means be preferred to the free alkaloid, which is but slightly soluble, especially as it is generally administered in a hypodermic injection.³

GERMAN PETROLEUM OINTMENT.

The German variety is preferred by some to the vaseline and cosmoline of American manufacture, owing to its firmer consistence, higher melting-point, and total freedom from odor when heated.⁴

PEPTONIZED BEEF TEA.

Dr. W. Roberts prepares peptonized beef tea by boiling one pound of finely minced lean beef in a pint of water for an hour and a half, in a covered dish. The liquor is then strained off, and the undissolved meat fibre remaining is beaten with a spoon into a pulp. The liquor and pulp are then mixed together in a jug, and to it, being now cooled sufficiently to be tolerated in the mouth (that is, not above the temperature of 140° F.), a fluid ounce of Benger's liquor pancreaticus is added. The contents of the jug being well mixed together, it is placed in a warm place, so as to retain its heat. At the end of two hours the mixture is well boiled for two or three minutes, and then strained.

Beef tea prepared in this manner is undistinguishable in taste from the ordinary beef tea, yet it contains three per cent. of dry peptone. This represents a nutritive value of albuminous matter about equal to that of milk. This tea thus possesses not only the stimulating and peptogenic virtues of ordinary beef tea, but also considerable nutritive value, owing to the presence in it of the peptone.⁵

LEUBE'S MEAT SOLUTION.

This preparation is made by placing in an earthenware pot finely chopped lean meat in its own weight of water, to which is added two per cent. of hydrochloric acid. The pot is placed in a Pipin's digester,

with a tight-fitting lid, and boiled for ten to fifteen hours, being stirred occasionally during the first few hours. The mass is then taken out and triturated in a mortar, till it has the appearance of an emulsion. It is then boiled again from fifteen to twenty hours without removing the lid of the digester. It is then opened, and the acid almost completely neutralized by the addition of sodium carbonate. The mass is then boiled down to the consistence of a thin paste. It may even be dried completely when it can be administered in the form of powders or troches.⁶

LOCAL USE OF PEPSIN IN DIPHTHERIA.

Dr. Danilewsky recommends the following preparation of pepsin for local use in diphtheria: Take of wine of pepsin one to two ounces, and of dilute hydrochloric acid fifteen to twenty drops, dissolved in six ounces of distilled water. To be applied locally as a mouth wash and gargle, or by a brush and an atomizer. It should be applied warmed on a water bath to the temperature of 37° C. to 40° C.⁷

TAMAR INDIEN.

The late Dr. Bumstead, of New York, ascertained from the manufacturer in Paris that this preparation was mainly powdered senna leaves mixed with an agreeable confection.⁸

GRIMAULT'S INDIAN CIGARETTES.

These have been examined by Dr. Hermann Brown, and found to consist essentially of belladonna leaves, coarsely powdered, with fragments of two other leaves, resembling those of epilobium and of Indian hemp, but in such small proportions that it may be considered as an adulterant.⁹

BORACIC-ACID OINTMENT.

Carbolic acid, although of great value, may yet act as an irritant and poison in the treatment of cutaneous affections, especially in the case of infants. Boracic acid, also an excellent antiseptic, has the advantage, however, of being a non-irritant. It is advantageously used in the form of five parts of the acid mixed with one of balsam of Peru and twenty-five of vaseline; or one to two parts of the acid mixed with eight of glycerine and one of starch, and then heated to boiling. This makes a mixture of a good consistence, with the acid in a state of perfect solution, and on that account may be expected to have a quick and effective action. If it should be desired to incorporate the acid with a fatty base, the addition of a few drops of glycerine materially facilitates its pulverization.¹⁰

OXYGEN FOR INHALATION.

Mr. Greenish, of London, reports that on his late visit to St. Petersburg, he found large quantities of oxygen used there for inhalation. Many pharmacists made it quite an article of their trade, some selling one hundred pounds' worth during two or three of the winter months, when asthma is most prevalent. Most pharmacists kept on hand a gasometer of the gas for use of inhalation in this disease.¹¹

ARTIFICIAL KUMYSS.

Kumyss may be easily prepared as follows: Take a champagne bottle, for which a tight-fitting cork is

¹ Pharmaceutical Journal.

² New Remedies.

³ New Remedies.

⁴ New Remedies.

⁵ London Medical Record.

⁶ New Remedies.

⁷ Medical Record.

⁸ New Remedies.

⁹ New Remedies.

¹⁰ Dublin Journal of Medical Science.

¹¹ Pharmaceutical Journal.

ready; fill it with good fresh cow's milk, so that a space of over an inch will remain between the surface of the milk and the end of the cork when inserted; then add for every litre of milk thirty grains of milk sugar, and shake well, then a piece of fresh compressed yeast of the size of two peas, having first softened it by soaking in a little water; cork and shake the contents of the bottle thoroughly. Allow it to stand for two days in a warm room, and then for three days in a cool place, shaking it occasionally. By the fifth day it is ready for use, and will keep good for a fortnight. The breaking of the bottle is prevented by leaving enough empty space between the milk and cork. Good kumys should be a homogeneous milky fluid, of the consistence of thin cream; on being poured out it should effervesce, and neither be lumpy nor have a taste like buttermilk.¹

NITRATE-OF-SILVER STAINS.

Better than potassium cyanide is a solution of one part each of ammonium chloride and mercuric chloride in ten parts of water. This removes the black stains from linen, cotton, or woollen goods without injury to the fabric. It will also remove stains from the skin. It is, however, necessary to remember that, although this is very much less dangerous than potassium cyanide, it is of itself a corrosive poison.²

AN IMPROVED NITRATE-OF-SILVER CAUSTIC.

A report to the Moscow Surgical Society recommends as an improvement the melting together of silver nitrate, five parts, with lead nitrate, one part, as the sticks made from this mixture do not break easily, and can be pointed like a lead-pencil.³

PRESERVATION OF RUBBER INSTRUMENTS.

As is so well known rubber is apt to become dry with time, and to crack, growing brittle, and losing all its elasticity. According to Dr. Pol, of St. Petersburg, this may be prevented by the simple immersion in aqua ammonia, one part diluted with two of water, for a length of time varying between a few minutes and an hour, until the rubber recovers its former elasticity, smoothness, and softness.⁴

DIFFUSIVE PROPERTIES OF IRON PREPARATIONS.

Professor Redwood reports to the Pharmaceutical Society at London the results of a series of experiments upon the diffusibility of some of the iron preparations. He found that dialyzed iron even in acid solutions, and although kept in the dialyzer some two days, would give scarcely a trace of iron in the diffuse. He argues, in view of these results, that it can hardly be conceived that dialyzed iron should be an active or efficacious medicine.⁵

VALUE AND COST OF THE CINCHONA ALKALOIDS.

Dr. Hager gives the following estimates from some experiments upon himself:—

	Antipyretic Value.	Cost.
Quinine sulphate.....	100.....	95
Quinidia sulphate.....	90.....	55
Cinchonidia sulphate.....	70.....	30
Cinchonia sulphate.....	40.....	10 ⁶

¹ Pharmaceutische Zeitung.

² Medical Times and Gazette.

³ Pharmaceutical Journal.

⁴ Bunzlauer Pharmaceutische Zeitung.

⁵ New Remedies.

⁶ The Druggist.

BOROCITRATES AND THEIR PREPARATIONS.

Experiments by Sheibe and Madsen upon the solubility of uric calculus in solutions of lithium benzoate, and magnesium borocitrate have shown that the latter salt is capable of dissolving almost twice the quantity of urate. Further, when a small dose (one gram) of the magnesium salt was given, after several hours the boracic acid could be detected in the urine by the flame reaction. It is supposed that this acid, not undergoing any change through the secretions in the human body, is therefore able to exercise a decomposing action upon the uric and phosphoric acid salts. According to Schwartz the mono- and di-borocitrates of magnesium appear to decompose in the presence of bacteria and ferments, and their energetic antiseptic action may depend upon the boracic acid set free in the nascent state. The acid salt has the advantage over the neutral salts in being more agreeable to the taste, and also more soluble in water.⁷

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

A. T. CABOT, SECRETARY.

OCTOBER 4TH. DR. DUNN reported a case of Syphilis of the Nervous System.

The patient, a man of twenty-seven, was attacked by gradually progressive paralysis seven months after the appearance of the chancre. The loss of power, ushered in by numbness and prickling, commenced in the legs, and gradually extended over all the limbs and trunk. Control of the bladder and rectum was lost. There were, however, no cerebral symptoms and no pain referable to the spinal column, if a slight feeling of constriction about the waist be excepted. Under antisyphilitic treatment he gradually recovered, and remained comparatively well for about four years. At the end of this time the nervous symptoms began to return and he suffered from a feeling of weight and helplessness in the lower part of the body. This was accompanied by pain in the back, hips, and legs, with occasionally convulsive twitchings of the fibres of the muscles of his legs. Though put upon antisyphilitic treatment, he has never regained his health. He attends to his business, but suffers at times from extreme weakness in the legs, and his urine is not wholly under his control. Dr. Dunn called attention to the short time between the initial lesion and the appearance of nervous symptoms as a point of special interest.

We had here disturbances appearing a few months after infection, which in the ordinary course of syphilis are delayed for a period of years.

The reader also urged the importance of an early diagnosis in these cases, as a delay in treatment allows such extensive destructive changes as cannot afterwards be recovered from.

DR. J. G. BLAKE reported briefly several cases of syphilis affecting the nervous system, and spoke of the almost universal fatality of the disease. His cases illustrated the diversity of symptoms in these patients. One case began as an apoplectiform seizure, followed by hemiplegia. In another hemiplegia was preceded by convulsions.

DR. J. J. PUTNAM said that the occurrence of pain

⁷ Pharmaceutical Journal.

or paralysis along the cranial nerves, or the sudden appearance in an adult of irregular epileptiform attacks; would excite the suspicion of syphilis.

In answer to Dr. Post the reader said that in his case, owing to the patient's neglect, the antisyphilitic treatment had not been thorough, previous to the appearance of the nervous symptoms.

OCTOBER 18TH. DR. BOARDMAN read a paper upon Emmet's Operation upon the Cervix Uteri.

After a brief *résumé* of the history of this operation, the reader described how he had been at first opposed to the procedure, regarding it as unnecessary interference, and thinking that he had been able successfully to cure these cases by less radical measures. Subsequent experience showed him, however, the incompleteness of these fancied cures, as many of his patients returned to him later with a return of their symptoms. He now altered his practice, and began to treat such cases by stitching up the rents of the cervix, with most satisfactory results; so that his conviction now is that in every instance where a laceration extends beyond the crown of the cervix it is good practice to perform the operation even as a preventive measure, in order to forestall effects which, in his belief, are almost sure to follow, sooner or later, unless the condition is corrected. It is not, however, to be supposed that all cases so treated will be promptly relieved of all symptoms. For not only may other morbid conditions coexist, but even in cases where this lesion is really the primary cause of all discomfort the recovery of complete health may be slow after the relief of the deformity.

With regard to the occurrence of the ruptures, Dr. Boardman stated that careful inquiry into these cases inclined him to the belief that the passage of the shoulders in a precipitate second stage was the most common cause.

The preparatory treatment before the operation he regards as of great importance. The cystic and indurated conditions of the mucous membrane, so often present, should be removed as completely as possible.

After the operation he enjoins rest even for several days after the removal of the sutures, which he leaves till the tenth day.

DR. BAKER agreed with the reader in his estimate of the importance of the operation and in the indications for its performance. He, too, thought the preparatory treatment very necessary. At the time of the operation the parts to be brought together are often insufficiently denuded, and this is a fruitful source of failure. As Dr. Boardman had said, all cicatricial tissue should be carefully dissected off.

DR. PORTER mentioned two cases of accident after this operation. In one a considerable hæmorrhage followed five hours after the operation, and was only checked by tamponing the vagina. In the other, violent reflex vomiting occurred, resembling that seen after conception, but so persistent that the patient kept no food on her stomach. On the fourth day he felt obliged to remove the stitches, as the woman was weak from want of nourishment. The vomiting ceased at once. The union was good in this case, and there was no subsequent gaping of the wound, which result suggests that perhaps the stitches are ordinarily left longer than is necessary.

DR. MARCY, who was present by invitation, said that he had not thought the preparatory treatment necessary in these cases. It is his habit to dissect off the

hyperplastic and cystic material at the time of the operation, and then, after preparing the edges of the rent, to sew the whole together, leaving a drainage tube in the uterus to keep the cervical canal patent, and to provide for the escape of fluids. He reported one death occurring four days after the operation, from general peritonitis. The autopsy showed one Fallopian tube to be widely dilated. He now operates with such antiseptic precautions as he can apply.

DR. BAKER said that he thought it important to save the cervical mucous membrane, and to this end the preparatory treatment seemed to him of great importance. He mentioned one case of death from septicæmia following the operation, and several cases of pelvic cellulitis. One of his patients was much troubled by vomiting, which was, however, less violent than in Dr. Porter's case.

DR. W. L. RICHARDSON said that he believed that the haste of accoucheurs in pushing up the anterior lip of the os, at the end of the first stage of labor, was a common cause of these ruptures.

In answer to a question by Dr. Ingalls, DR. BAKER said that he thought accoucheurs should, before discharging a patient, examine the os, as they commonly examine the perinæum, to see that it had suffered no harm from labor.

NOVEMBER 1ST. DR. DWIGHT read a paper upon The Disappearance of Tumors, which is published in this number of the JOURNAL.

DR. T. B. CURTIS said that he knew of but one variety of tumor, properly so called, that was liable to disappear spontaneously. Inflammatory swellings or growths may of course subside; and gummata may become absorbed under the influence of anti-syphilitic remedies; but the only *neoplasm* that is known to be capable of receding in the manner described by Dr. Dwight is *lymphadenoma*, otherwise called lymphoma, or lymphosarcoma. Tumors of this kind, often voluminous and multiple, formerly recorded under the name of cancer, of encephaloid disease, of sarcoma, or, simply, as "malignant growth," occur in leucocythæmia (or leucæmia), and in Hodgkin's disease (called also pseudo-leucæmia or adenia). These two affections, leucæmia and pseudo-leucæmia, according to recent French investigations, constitute forms of one disease, which it has been proposed to call the *lymphogenic diathesis*. The neoplasms characteristic of this disease are composed of adenoid tissue (of His) similar to that constituting the various lymphatic organs, glands, etc.; and consist of a stroma of reticular connective tissue (a network of fine filaments anastomosing together and with the walls of the capillaries) the meshes of the reticulum being filled with lymphatic corpuscles, or leucocytes. Lymphadenoma may occur as *hyperplastic*, or as *heteroplasic* growths. The former result from hypertrophy of the normally existing adenoid tissues of the economy (in the spleen, lymphatic glands, tonsils, thymus, intestinal mucous membrane, medulla of bones, etc.). The latter may be developed wherever connective tissue in any of its forms exists (in the skin, liver, lungs, kidneys, testes, serous membranes, etc.).

The leucæmic and the pseudo-leucæmic forms of the lymphogenic diathesis differ from each other, mainly, if not solely, in the excess of white corpuscles characteristic of leucæmia, and in certain disturbances and alterations resulting from their presence (thromboses and extravasations). In every other respect, the two forms

are very similar. In both, the disease eventuates, after a duration of many months or several years, in a gradually reached condition of profound cachexia, characterized by emaciation and anæmia, with pallor, shortness of breath, extreme debility and apathy. The most common termination is fatal exhaustion, attributable in many cases to persistent vomiting and diarrhoea.

It has long been known that certain tumors were liable to undergo resolution and disappear. Bazin, the dermatologist of the St. Louis Hospital, in Paris, was the first to describe a cutaneous disease called by him *fungoid mycosis*, in which multiple tumors, growing in the skin, were liable to terminate in ulceration and sloughing, or in *spontaneous disappearance*. The pathology of these occasionally receding tumors, as lymphadenomatous growths, has been elucidated within a few years by Ranvier and his pupils, in the pathological laboratory of the Collège de France. All the instances of the cutaneous form of lymphadenia hitherto observed have been pseudo-leucæmic, without excess of white corpuscles in the blood. The opinion has been expressed by Dr. Thin, an English pathologist, that Dr. Dühring's well-known case of "inflammatory neoplasm" was an instance of cutaneous lymphadenia.

Similar adenoid or lymphomatous growths are developed in the mucous membrane of the digestive tract throughout the greater part of its extent, namely, from the cardia to the anus. The neoplasm here affects various forms: it may constitute a diffuse infiltration, thickening the mucous membrane; it may take the form of tumors, occasionally as large as a fœtal head, and causing more or less obstruction of the bowel; lastly, the new growth may be the seat of thrombotic and necrobiotic processes, giving rise to ulceration and sloughing, with copious hæmorrhages. These are the forms of intestinal complication commonly met with in leucæmia and in pseudo-leucæmia or Hodgkin's disease. Professor Béhier, of Paris, however, has reported in full, under the name of *intestinal leucæmia*, a case, fatal like all the others, in which the disease was limited to the intestinal mucous membrane, the latter being the seat of a hyperplastic adenoid growth, while the spleen and lymphatic glands were free from any such alteration. The case terminated in the usual cachectic condition.

Last year a discussion took place before the Pathological Society of London, on the occasion of a case reported, with post-mortem specimens, by Drs. Coats and Gairdner, in which several tumors, out of a number, had disappeared. The nature of the disease was recognized as lymphomatous, and instances of a similar character were adduced by Sir J. Paget and others; but the members present showed very little familiarity with the admirable researches of Professor Ranvier and of his pupils, Malassez, Debove, and Demange, to whom we owe most of our recent knowledge of the pathology of the lymphogenic disease in its various forms.

DR. DWIGHT said that Heitzmann is disposed to consider Dr. Dühring's case as one of sarcoma.

DR. CURTIS remarked that to identify the adenoid tissue of lymphatic organs and of lymphoid growths, a special mode of preparation is necessary, consisting in the use of a camel's-hair brush to expel the superabundant white corpuscles from the microscopic section of tissue. He inquired of Dr. Fitz whether a fairly competent pathologist, if not forewarned or on the lookout for adenoid tissue, might not easily mistake a specimen of such a growth for a round-celled sarcoma.

DR. FITZ replied in the affirmative, remarking that the structure of a lymphadenoma is that of a lymphatic gland, but may be soft or hard according as cells or fibrous tissue predominate. The softer varieties are those most likely to be mistaken for sarcoma. The tumor in Dr. Dwight's case seems to have been spongy, a fact which would suggest that the growth may have been of another nature. The peculiarity of lymphadenoma is its multiplicity. This tumor was single. He recalled a rare tumor once seen by him in a case operated on by Dr. Hodges. The growth started from the interior of the pelvis and appeared in the buttock. It was very fibrous in structure and presented large lymph spaces, thus allowing considerable variations in size.

DR. BOLLES spoke of the suggestion of the reader that the tumor was possibly of inflammatory origin. Such tumors often appear in this region, especially in women, and may be very obscure. He spoke of the case of a woman who had a very marked tumor of this kind, which has now disappeared almost entirely and spontaneously. There are in this region a few lymphatic glands, one of which may inflame and become greatly swollen.

DR. DWIGHT, while allowing the possibility of an inflammatory origin for his tumor, thought it could scarcely have been an enlarged gland, as the pelvic glands are near the coccyx, and not alongside of the rectum, as was this tumor. In reply to a question by Dr. Curtis, Dr. Dwight said that the blood was not examined in his case.

Recent Literature.

Lectures on the Human Eye in its Normal and Pathological Conditions. By ADOLF ALT, M. D. New York: G. P. Putnam's Sons. 1880.

While the literature of the normal and pathological histology of the eye has of late years reached no inconsiderable proportions, there has been hitherto no attempt to present the subject in a connected and systematic form, if the encyclopædia of Graefe and Sarmiset be excepted. But the large size of that work and the fact that it is to be found only in German limit the circle of its readers in this country. The present volume must therefore be welcome to many. The book was first written and published in German, and the translation was evidently made by one not thoroughly familiar with the English language; as a natural consequence there are many crudities of expression, sometimes obscuring the sense, and the reader is often farther confused by the promiscuous distribution of commas. Spite of these defects, however, it offers, on the whole, a good general view of the results of the more modern investigations in the anatomy and pathology of the eye, given briefly enough to be of value to those who do not desire to make a special study of ophthalmology, but do wish to know something more of these subjects than is to be found in the usual textbooks.

The author has limited himself to the eyeball itself, proposing to treat of the accessory parts of the eye later. The material has been divided into ten chapters, treating respectively of the cornea, sclerotic, conjunctiva bulbi and episcleral tissue, iris, corpus ciliare, choroidea, opticus, retina, lens, vitreous body and

zonula Zinnii. Much more space has been devoted to the pathological than to the normal histology. Nearly a hundred wood-cuts from original specimens illustrate the text.

The author agrees with Schwalbe and Waldeyer that Schlemm's canal is a lymph canal, and separate from the venous plexus described by Leber. Admitting the existence of a dilatator muscle of the iris in the rabbit, he has not been able to convince himself of the presence of such a muscle in man. The layer of pigmented epithelium lying upon the basement membrane of the choroid he appears inclined to regard as a part of the choroid rather than, as has of late years generally been held, of the retina. In the next paragraph, however, it is stated that, since this layer secretes the retinal purple, "it represents therefore a kind of gland lying between retina and choroid, as an independent organ." To the cells of this layer considerable pathological importance is attributed. The so-called colloid excrescences of the lamina vitrea of the choroid are regarded as probably secreted by them, though possibly the result of their degeneration, and these excrescences again as not very infrequently the origin of bony formations of the inner side of the lamina vitrea. The typical pigmentary retinitis is said to be a secondary affection due to primary proliferation of the pigmented epithelial cells.

Under the title of *iritis serosa*, pathological changes are described which certainly differ much from those found in the disease known to many writers under this name; among others, the so-called spongy exudation into the anterior chamber. This is only another example of the confusion existing in ophthalmological literature in relation to the term *iritis serosa*, and it would perhaps be better if it were definitively banished from our nomenclature.

The Orthopragms of the Spine. By ROBERT HEATHER BIGG. London: J. and A. Churchill.

A book with sentences like the following may be of interest to the author, but hardly of value to the medical reader:—

"The entire human body is a republic, and is constituted of the relics of dead and the bodies of multitudinous and minute living workers, whose constant birth, life, and death make them analogically resemble the generations of men." "Man . . . is a kind of *locomotive country* with *myriads of inhabitants, little busy bodies*, technically termed 'corpuscles,' who build up their own continent and inhabit it."¹

"This licensed mobility is still further marked in the abdomen, where the organs, namely, the stomach, liver, spleen, intestines, urinary and genital viscera, hang in apparent confusedness from the bony scaffolding behind and above, and will undergo unusual rudeness and roughness of motion without injury, or suffer only transitory inconvenience, as instanced by submission to the operation of, in pugilistic parlance, having 'one's wind taken.'"

The professional reader will pause to consider "the licensed mobility" of "the genital viscera," their "apparent confusedness," their ability to undergo "unusual rudeness" without injury, suffering, however, transitory inconvenience if they submit to having their "wind taken." Mr. Bigg has apparently but a super-

¹ The italics are ours.

ficial knowledge of medicine; in fact, he lays no claim to a medical education; but he and his father have enjoyed excellent opportunities in the experience of fitting "orthopragms," being successful surgical mechanicians in London, who have made a collection of orthopædic instruments now in use (as well as discarded instruments) for a museum of hygiene. The book offered to the public is Mr. Bigg's generalization on this collection, with conclusions drawn from his own observations, but there is an unfortunate lack of detail necessary to make a description of the principle of "orthopragms," or spinal splints, of value. The reviewer has not been able to find much, if anything, which has not been already better expressed elsewhere. It rarely happens that a book comes under medical consideration, bad as medical books frequently are, written in such abominable English, and where the amount of instruction with such difficulty floats the fearful verbiage, forced use of words, and misshaped sentences which load every page of the book in question.

Mr. Bigg promises us a monograph on the "dislocative disorders" of the uterus. This will be of interest, as in America, as far as we know, the civil engineers, with whom Mr. Biggs associates himself, have not yet attempted to shore up the falling womb.

Is Consumption Contagious, and can it be transmitted by Means of Food? By HERBERT C. CLAPP, M. D. Boston and Providence. 1881.

In the query on the title-page of this little book the troublesome word *contagious* is used in the sense of communicable, and the no less vague word *consumption* as synonymous with *phthisis* (chronic catarrhal pneumonia?) and *tuberculosis*. The author thinks the ancient medical world would have answered the question affirmatively with less hesitation than the modern shows, or more probably with none. If this be so, our hesitation is to be attributed to increased knowledge, not to indifference, and still less to comparative ignorance. We deal with an equation presenting more factors, and consequently resolve it more slowly and more carefully.

Induction and physiological experiment may be properly appealed to in forming an answer as to the communicability of the group of symptoms included by the author under the term *consumption*; but pathology is certainly not yet ready to identify these symptoms necessarily with *tuberculosis*, nor even to speak positively in regard to *tubercle* itself.

Any answer to the query reached from any point of view must be so little categorical and so much modified as to be hardly worth giving; or, in other words, to a query so attractive and interesting, especially for the public, the scientific answer of to-day must be lame and disappointing.

The book makes no pretense to originality, and is largely composed of extracts judiciously and impartially chosen from the writings of recent investigators. Our objection to it, even as a compilation, is that if intended for professional readers it is ahead of time; if for the public, it is unnecessary, and perhaps calculated to do more harm than good. It bears the same relation to the solution of the question discussed as a statement of an election would have to the final result in a close and doubtful State, where several important districts were still to be heard from.

Medical and Surgical Journal.

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THE STATE BOARD OF HEALTH OF NEW YORK.

THE State Board of Health of New York, which recently met in Albany, as previously reported in the JOURNAL, held an adjourned meeting at the residence of Prof. Charles F. Chandler, in New York, on the 27th of November, for the purpose of arranging the details of its first annual report, which, according to the requirements of the law, must be presented to the governor of the State by the 1st of December. The report will give a comprehensive statement of the work of the board since its organization on the 29th of May last, and will contain much matter of public and professional interest.

There are in the State nine hundred and thirty townships, three hundred and thirty incorporated villages, and thirty-four cities, each of which should of course have a local board of health. The State Board found, on beginning its duties, however, that there were less than one hundred such boards in existence, and only a few of these were at all active or efficient. Its first work was to secure the organization of as many local boards as possible, and in this particular it has been very successful. The local boards in the rural districts, consisting of the supervisor and justices of the peace, are of no expense to the people, and it is through them that the State Board expects to accomplish its most important practical work.

The board has also, in accordance with the provisions of the law creating it, perfected a system by which a complete and accurate report of all births, marriages, and deaths is to be kept by the clerk of each township, and forwarded every month to the office of the State Board. These records have, as a rule, been very imperfectly kept (if such records were preserved at all) outside of the cities of New York and Brooklyn. In addition, arrangements have been made for regular and special gratuitous reports from physicians in every county of the State in regard to the rise, spread, extent, character, and causes of contagious diseases and of epidemics of every kind. These reports will be begun regularly with the opening of the new year. Another important work has been the issuing of a manual containing all the sanitary laws now on the statute books, as well as copies of a number of local ordinances, the adoption of which is recommended by the board.

In many neighborhoods sanitary surveys have been begun in a small way, and the local investigations in special cases form the most interesting part of the

report. One of them related to a malaria-breeding tract of eighty acres, known as the "Schaghticoke Malarial Elbow," in Rensselaer County, near Hart's Falla. It is a flat district, in a high state of cultivation, which is considered very valuable, and it was found that stagnant and pestiferous ponds had been created in it by the building of a railway embankment and of a mill-dam. It has been decided that the tract must be thoroughly drained, and a resolution was passed at this meeting condemning the nuisance, and requesting Governor Cornell to take such action as will abate it. On whom the costs in this and similar cases must fall is a question that will have to be decided by the courts. In Babylon, Long Island, there were two hundred cases of dysentery during a short period, and the cause was found to be the contamination of wells by the percolation of deleterious matter from cess-pools and privies. Many similar instances were found, and efficient measures recommended for the prevention of such trouble in the future; and in like manner the causes of various epidemics of diphtheria, typhoid fever, and other infectious diseases have been thoroughly investigated. The board reports that it receives the hearty cooperation of physicians and of the people, and it proposes, during the coming year, among other matters, to deal with the causes of some of the nuisances existing in New York city.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE ARMY.

IN striking contrast with the work done by the medical department of the army appears the diminutive report of the surgeon-general.

One naturally turns first to the Index Catalogue, which is dismissed with a very brief mention. The surgeon-general leaves the praises of the first volume to be told by others. The first part of the second volume was just going to press on October 1st. An estimate has been forwarded for the printing of Volumes III. and IV., and medical men everywhere will join heartily in the hope that this "may be granted, that the progress of the work may not be interrupted." The library now numbers about 51,500 volumes and 57,000 pamphlets.

The need of a fire-proof building for the protection of the surgical records, the library, and the Army Medical Museum is strongly urged. These valuable collections are now exposed in a building not fire-proof, surrounded by, and in some parts in immediate contact with, inflammable houses and sheds under the control of private individuals. The sad experience of the Smithsonian Institute in 1865 and of the Patent Office in 1877 has demonstrated the perils to which valuable collections are exposed in such buildings. Search in the records has been made during the past year in 36,277 cases referring to pensions. The loss of these records by fire would be irreparable.

The health of the white and colored troops is reported upon separately, and a slight balance in favor of the colored troops is shown by the figures.

The total number of wounds, accidents, and injuries amounts to 6020, — a number insignificant when compared with the enormous figures of the war, but somewhat surprising for a nation supposed to be at peace with all the world.

THE LEGISLATIVE INQUIRY INTO INSANE-ASYLUM MANAGEMENT IN NEW YORK.

THERE seems to exist just now in New York a very active and probably generous rivalry between societies and individuals as to who shall be first and foremost in protecting the insane, and in reforming the management of asylums and the construction of the buildings. The Neurological Society, the Society for the Protection of the Insane, the State Board of Charities, and various specialists with reputations made and with reputations to make are all in the field.

The immediate exciting cause of this activity is the sitting of the committee of three senators, appointed at the last session of the state legislature to investigate abuses alleged to exist in the management of asylums for the insane, to inquire into the general subject of lunacy administration in the State, and to report the results at the next session of the legislature by bill or otherwise.

This committee had a preliminary meeting last July, and resumed its sittings in the city of New York December 1st. The committee expects to examine into the workings of every asylum in the State, and invites suggestions from experts in regard to any proposed measure of reform.

The proper composition of a lunacy commission; the mode of appointment and removal of superintendents, assistants, and attendants, together with the salaries and opportunities to be allowed to and the duties to be expected of officers and nurses; the questions of mechanical restraint and active occupation for the insane; the form of building and organization, in a word, best adapted to caring for the insane with the greatest advantage; and the sort of insane most likely to profit by confinement in an asylum, — all this must pass through the alembic of the senatorial committee, which it is greatly to be desired may be happily conducted to judicious conclusions. We hope the wisdom acquired in New York may not be dissipated in Albany.

In a circular prepared by the committee of the Neurological Society a somewhat recent estimate of the proportion of assistants to patients in the different state asylums gives the following results:—

At the Utica Asylum, four assistants to 600 patients; at the Hudson River State Hospital, Poughkeepsie, two assistants to 250 patients; at the Willard Asylum, Ovid, five assistants to 1340 patients; at the City Lunatic Asylum for Women, Blackwell's Island, seven assistants to 1267 patients; at the institution for men, on the same island, five assistants to 1087 patients.

The investigations and conclusions of the legislative committee will be watched with general interest. A better state of things certainly can and probably

will be evolved out of the present position; the result may disappoint the enthusiastic reformer, but we hope it will prove at least equally distasteful to the routine political official. In any case there is an excellent opportunity to testify before a committee.

GASTRIC ULCER AND CANCER OF THE STOMACH.

In a clinical lecture¹ on simple gastric ulcer, by Trousseau, in which the question of the diagnosis of cancer of the stomach is touched upon, the following instructive passage occurs: "Should the cancerous tumor not be accessible to investigation, as in the case to which I have just alluded, there remains a valuable diagnostic sign which I must indicate to you. This sign, to which, over fifteen years ago, I first called the attention of the profession, consists in the appearance of a *venous thrombosis*. When you are in doubt as to the nature of a gastric disorder, and are hesitating between a chronic gastritis, a simple ulcer, and a cancer, a *phlegmasia alba dolens* of the lower or the upper extremity will put an end to your indecision, and it will be allowable for you to assert positively the existence of a cancer."

Trousseau died, as is well known, of cancer of the stomach. Not long after his death, Professor Lasègue, of Paris, published an obituary notice,² in which he related the following striking incident. Having described the earlier phases of Trousseau's illness, Lasègue proceeds to relate how "he was with difficulty persuaded, by the solicitations of his friends, to make a short visit at the sea-side. There a certain degree of improvement showed itself. . . . But, alas! it was only of short duration. A warning, which he less than any one could fail to understand, signified to him that thenceforth he had only to resign himself to his fate. I see him now before me, as he was on that never-to-be-forgotten day, when, taking me by the hand, he said, 'My friend, a phlebitis set in last night; it gives me but little pain; nevertheless, I know too well, by long experience, the meaning of this symptom to need any further warning.'" Trousseau's death followed not long after this interview with his friend and biographer, Lasègue.

MEDICAL NOTES.

— We find the following items in the *Canada Lancet*: "In fissure of the anus, instead of employing forced dilatation, which is the classic remedy, Dr. Hamon advises the following means, which has succeeded with him in fifteen cases consecutively: It consists simply in touching the fissure with a camel's-hair pencil imbibed in a mixture of five grains of chloroform and ten grains alcohol. Two or three applications effectuated at two or three days' interval

¹ A. Trousseau. Clinique médicale de l'Hôtel Dieu. Paris, 1868. Vol. iii., page 95.

² Eloge de Trousseau. Par le Professeur Lasègue. Archives générales de Médecine, 1869, vol. ii., p. 374.

suffice generally. The first time the pain is very acute, but diminishes on successive applications."

"A doctor tells with pardonable pride how, being called in, at the *début* of his career, to a consultation with an eminent prince of science, he had insisted, despite the opinion of his famous senior, that the patient had an incurable affection of the heart. 'And what were my delight and pride,' he says, beamingly, 'on learning three days later that my patient had gone off precisely as I had declared he would.'"

— The executive committee of the Alumni Association of Jefferson Medical College, Philadelphia, have elected our collaborator, Dr. Hamilton Osgood, anniversary orator at their annual meeting, March 10, 1881.

— The residents of West Medford, Mass., express themselves as greatly distressed on account of the condition of the lower Mystic Pond, into which the Mystic sewer, built by the city of Boston, empties. The fish in the pond are said to have died from its filthy condition, and the smell arising from it is regarded as a nuisance.

— We find a new patent pamphlet and magazine box, manufactured by Thomas L. Clacher, of New York, a convenient form of receptacle for papers and pamphlets.

— At a late meeting of the council of the National Association for Protection of the Insane, held in New York, a committee was appointed to take such steps as shall be best calculated to induce medical colleges, medical journals, and asylum authorities to do all in their power to diffuse a better knowledge of psychiatry among the profession, and specially to educate physicians who may desire a thorough knowledge of the subject. Another committee was appointed to obtain facts and statistics relating to the methods of restraint and system of labor in use in the asylums of the country.

NEW YORK.

— The twenty-fifth anniversary exercises of the New York State Woman's Hospital were held on the 18th of November at the hospital buildings, corner of Fourth Avenue and Forty-Ninth Street. Ex-Governor E. D. Morgan presided, and the annual report of the board of governors was read by Mr. Charles N. Talbot. Mrs. Jonathan Edwards read the report of the board of lady supervisors, and in this it was stated that greater accommodations, including more buildings, were needed to carry on the work of the institution. In the treasurer's report, which was presented by Mrs. Russell Sage, the receipts for the past year were placed at \$38,677, and the expenditures at \$37,677. The report of the medical board, which was made by Dr. James B. Hunter, stated that the increase in the number of paying patients had been large, and special request was made for another detached cottage. The necessity of first-class nurses was urged, and a suggestion made that all good nurses should be retained as long as possible on account of their peculiar fitness for the duty required of them. Since the foundation of the hospital there had been treated in it 5397, and of these 3480 had been com-

pletely cured. The number then under treatment was 105. An address was then made by the Rev. Henry C. Potter, rector of Grace Church, in the course of which he said that the institution had here become widely celebrated on account of three things particularly: first, success in the treatment of evils which, fifty years ago, men supposed to be incurable; second, its singular success in the diseases peculiar to women in general; and, third, the fact of its being a witness of the practicability of men and women working together in a good cause. The medical address of the anniversary was made by Dr. Robert F. Weir, surgeon to the New York and Roosevelt hospitals, who traced the progress of the institution from its humble origin in 1855 until the present, when it was conceded by all, both at home and abroad, to be the best hospital of the kind in the world.

— Five thousand dollars have been bequeathed to the Woman's Hospital by the late Daniel N. Lord, of this city. He also left fifty thousand dollars to the New York Society for the Relief of the Ruptured and Crippled.

— At the monthly meeting of the County Medical Society, November 22d, Dr. David Webster was announced to read two papers: one on Recovery of Vision after Total Blindness from Optic Neuritis, and one on Amblyopia from Alcohol and Tobacco. The reading of the latter, however, had to be postponed to a special meeting of the society, held on the 29th.

— At a recent meeting of the board of health a report was submitted by a member of the committee on hygiene, of the County Medical Society, in regard to several cases of diphtheria, which were apparently caused by impure air in houses where no imperfections could be detected in the plumbing. The report attributed these cases to the exhalations from filthy streets, and was concluded as follows: "One of the principal sources of foul air in the city is the filthy condition of many of the streets, and especially the street gutters; for even when the streets are swept, much dirt is left in the gutters. I am fully convinced that much sickness and some mortality are produced by the foul exhalations of the streets and gutters alone. In addition, a large portion of the street dirt and gutter filth, which should be regularly and carefully swept up, is washed down into the receiving basins and sewers with every rain-shower, and this adds to the quantity and malignancy of the sewer gases. To the imperfect cleaning of the streets much disease of various kinds is mainly attributable."

— *Apropos* of the recent meeting in New York of the National Association for the Protection of the Insane and the Prevention of Insanity, a meeting of the state senate committee on lunatic asylums will be held in the early part of December, when reports will be made upon the condition of the asylums in the eastern part of the State, and testimony will be taken in regard to alleged abuses. The committee is said to be opposed to the further building of "palaces" for the pauper insane. One of the asylums in the State cost four thousand dollars for each patient it can hold, and another is now projected which it is

estimated will cost fifteen thousand dollars *per capita*.

—The night medical service has not as yet assumed very extensive proportions. During the month of October thirty-eight persons were attended under its auspices, and the calls were made by twenty-five physicians.

—Dr. Isaac A. Nichols, an old practitioner of Newark, N. J., much respected for his professional attainments, and highly esteemed on account of his philanthropy, died on the 22d of November. For many years he served the city as health physician without remuneration.

LITERARY NOTES.

—We learn that M. M. MacHardy, of London, is engaged in the preparation of a fourth edition of Soelberg Wells's Treatise on Diseases of the Eye. The popularity of the original work is attested by the fact that three editions were published in England from 1868 to 1873, that it was reprinted in this country, and was translated into French and German. A revised edition would, without doubt, have appeared earlier in England but for the death of the lamented author.

Miscellany.

LETTER FROM WASHINGTON.

MR. EDITOR, — Our season is now well under way, and the medical schools are conducting their sessions as usual, but with small classes. The want of facilities for thorough practical work is very much felt, and no amount of theoretical teaching would seem to supply this want. Both colleges are well equipped with facilities capable of teaching satisfactorily, but there is little or no money in it to them, and the mother universities do not seem to be alive to the necessity of helping these departments; and so the classes go on year by year, just paying expenses and holding together.

Practical anatomy is well taught, with as commodious and well-ventilated dissecting-rooms as are needed, and no lack of material; practical chemistry is taught, after a fashion, in an elementary manner; no practical pharmacy and no practical physiology, although with the latter attempts have been made, but it is impossible to teach this branch without an outlay of money; practical histology and pathology is receiving a very fair share of attention. The medical department of Georgetown University has made a new departure this year by admitting two female students to the lectures on anatomy, chemistry, and physiology.

The Training School for Nurses is struggling along, with a certain amount of enthusiasm on the part of those directly interested, with hopes for a successful future; but the profession do not encourage the enterprise greatly, on the ground that the trained nurse may attempt to turn doctor; and there is still a large proportion of our patients who prefer the old colored "auntie" or "mammy" to coddle and humor them to their hearts' content, despite the orders of the doctor

and the laws of hygiene and common sense. One of the nurses in the school, last winter, was a well-trained *masseuse*, but it is doubtful whether she found enough to do to keep her employed. A very sensible idea in this connection comes to us from abroad, — that of employing the blind for this purpose, by training them to the use of massage. Their delicate sense of touch and their naturally quiet manners would seem peculiarly to adapt them for this employment. The trustees of the school are about opening an Art Loan Exhibition, and hope to profit by the proceeds. Fairs, festivals, and tea fights seem to be pretty well worn out in the service of such enterprises, and the Loan Exhibition is the substitute of the present day, — particularly with our new-found fondness for old things, and centennial curiosities. An historic house will be selected for the purpose; for, young as we are compared with Boston, we have yet a few historic houses.

So far this letter has assumed rather a depreciating tone, which is an unfortunate fact, and the main reason for the necessity of such criticism is the want of a general hospital to stimulate medical men, medical students, and nurses by clinical teaching. This city of 180,000 inhabitants, fast becoming a centre of wealth, literature, and science, is without a general hospital worthy of the name. It is filled during the winter season with strangers, who come here for a holiday; some spending the whole winter, and making the boarding-houses and hotels their home for the time being. Should they be taken sick or sustain serious accidents, there is no proper place for them to go. What hospital accommodations have we, then? For the deserving poor an almshouse hospital, miles from the centre of the city, in the most unhealthy location possible, and all patients on a common footing with vagrants, prostitutes, and criminals; a Freedman's Hospital, well established and conducted, but intended for a special class of colored patients. The "poor white" of this region has his prejudices, which would prevent his seeking assistance there, and there is a large number of the colored population who, if they go to a hospital, want to go to a white man's hospital. For the wealthy and poor classes alike there remains Providence Hospital, under the charge of Sisters of Charity; admirably constructed, with a well-organized visiting staff; but open to the fatal objection of being controlled by a sect whose rules prevent any medical man from residing in the house; so that through the long watches of the night many serious cases must be left entirely to the judgment of the Sisters themselves. This hospital provides only for the non-resident poor. Another objection is that the Sisters themselves cannot assist in any way at operations or examinations involving exposure of the genital organs. This, however, is not so serious an objection, as Columbia Hospital provides admirably for all obstetrical and gynecological cases. It is an institution where any lady may take board for treatment of uterine disease, with every prospect of comfort and satisfactory attendance, and the poorer classes are also well provided for. We have, too, a Children's Hospital, which will compare favorably with any in the country.

The members of the profession are fully alive to these wants and necessities, and with a number of our citizens are about to petition Congress, through the commissioners of the district, for a proper remedy. What success they will meet with remains to be seen. Already little jealousies and personal feelings are show-

ing themselves. The projectors form a clique. They want it for the colleges and their own personal ends; it is an attack upon the Catholics who control Providence Hospital; so-and-so was not invited to attend the meeting; a location proposed is not suitable, because one man owns property in the neighborhood, and is afraid it will depreciate in value, — and so on, in the way so familiar to many of us. What a curious commentary upon our relations to one another!

Speaking of the colleges, we have recently lost by death a very thorough and useful anatomist, Frederick Schafhirt, acting assistant surgeon, U. S. A. Schafhirt came to this country, in 1847, from Germany, where he had been associated with Von Langenbeck, for whom he had a great admiration. He settled in Philadelphia, and remained there until 1858, working for the University of Pennsylvania, and more directly associated with Professor Leidy. He came to Washington in 1860, and became curator of the Museum and janitor of the National Medical College, working at the same time for the Smithsonian Institution. During the five years that he was associated with the college he did much valuable work, and assisted materially in protecting the interests of the college at a very critical period. For the most of the time he was virtually the demonstrator of anatomy, and for the last two or three years received the title. About 1865 he became connected with the Army Medical Museum, where he remained until his death, in October, 1880. Early in his connection with the college he succeeded in preparing and arranging a really valuable little museum of anatomy, now for the most part scattered and neglected, and many a student of that period owes a grateful remembrance to "Old Schafhirt," as he was always called, for the interest he took in advancing his knowledge of practical anatomy, and for fostering a determination to do his work thoroughly and well. The Army Medical Museum is filled with specimens of his handiwork, which give better evidences of his skill than words can convey. Peace be with you, old fellow! Many of us will long think of you with pleasure!

Schafhirt's predecessor (by a couple of years) as demonstrator of anatomy in the National Medical College was Dr. Selden W. Crowe, whose name has recently attained so much notoriety in connection with the Washington Medical Institute as selling diplomas in an irregular way. Crowe was a *bona fide* graduate of the college, and possessed the impudence of the — Well, he is reported to have recently died of heart disease, on the cars between New York and Philadelphia. If this report be genuine, and it is not a death *à la* Buchanan, so much the better for the profession, for otherwise he might have occasioned considerable annoyance. He freely admitted his connection with and modes of operation through the Washington Medical Institute, both in writing and in print. The revelation of this state of things was as much a surprise to medical men here as elsewhere, and it is not believed that his operations were very extensive.

The recent issue of Volume I. of the Index Catalogue of the Library of the Surgeon-General's Office, U. S. A., seems still to be exciting comment and surprise at the vastness of the undertaking, as well as its thoroughness and utility. One of the latest and most interesting additions to this library is from the Van Kaathoven collection of portraits of medical men, with which are to be found medical caricatures and

illustrations of medical subjects. This collection was sold at Amsterdam recently; a large portion of it has become the property of the library, and it is arranged in folio books for alphabetical reference. Simply glancing over these illustrations is a task in itself. There are 2000 German, 600 French, 400 Italian, and 365 English portraits of medical men, — 3365 in all. In the combined collection are some very curious old prints. Among the English we find Gillray's forcible, if not elegant, delineations, Hogarth, and others; among the French the characteristic signature of G. Doré, now so well known, but then obscure; Gavarni and perhaps others might be also referred to, if one undertook to study the collection. Some of the prints are quite rude in execution, while others are beautiful examples of the engraver's skill, and comprehend many of the best of the engravers known to us. It is interesting, too, to note the duplicate copies, of which there are many, by different hands, of the same original engraving. It may not be generally known that we possess in Washington a great prize in medical portraiture, now in private hands, in an original portrait in oils of William Harvey, large size, well preserved, and painted by Jose Ribera, called Spagnoletto. The study is entirely different from any we are familiar with; is bold, somewhat after the Spanish style, with a head covered with short, curly, black hair in disorder, a short, thick beard of no particular cut, throat bare, and the loose mantle in careless folds. The master has just taken the heart out of a rabbit, and is demonstrating it, with scalpel in hand. The picture bears every evidence of being genuine, is well authenticated by documents, and was purchased in Italy for a considerable sum of money; it is said that an agent of the British government was in negotiation for its purchase at the time it was secured. From its characteristics and what we know of the life of Harvey, it was probably taken at the time of Harvey's second visit to Padua. The only copy that has been attempted to be made from it, so far as known, was for a bust while it was in Italy.

It would seem as if, in addition to these medical portraits and illustrations, there should be some attempt on the part of a public institution to collect the various medals which have been issued from time to time as struck in honor of medical men and medical events. They are quite numerous. Comparatively little is known of them, and some of them are beautiful specimens of the graver's skill. Some of the French medals struck in honor of Jenner and vaccination, especially those by Andrien, are very handsome. The reverse of the Brodie medal, by Wyon, has been adopted by the *Art Journal* for its frontispiece, and the Cheselden medal is very fine. Our own medals, although few and comparatively insignificant, are showing some fine specimens of work from the hands of Paquet, Barber, and others, — as the Pancoast and N. S. Davis medals, for example. The Greek and Roman medals, with Hygeia, Fecunditas, Æsculapius, Telesphorus, and the various insignia accompanying them, must be of considerable value to the student of the history of medicine, especially as there is such a mine to be worked out of them; we really know but little about them. Dr. Richard Mead, whose collection of medals brought at public sale, after his death, nearly \$10,000, attempted in 1724 to decipher those struck in Smyrna, but, according to later authorities, got most wofully and inextricably mixed up. He

was inspired to answer the charge that medical men of that date were mostly slaves and without honor by attempting to prove through these medals that they were free men, and especially honored; from his time to the present we have had but little written to throw light on the subject. C. A. Rudolphi published in Berlin, in 1825, an index of all medals struck in honor of medical men, but confined himself to describing the more modern series; and Renaudin, in 1851, in Paris, published a curious book of historical and critical studies of numismatic physicians and their writings. This is about all the literature of a general nature that we have on the subject. W. L. November, 1880.

DIPHTHERIA, WITH CROUP.

MR. EDITOR, — It sometimes takes a great many blows to drive in a nail, — especially when the wood is hard and thick. Dr. O. F. Ham's communication in your last number,¹ entitled Croup or Diphtheria? is one more blow upon a nail which had already before received several taps in your journal.² He contributes a fresh instance, to be added to the many already on record, of so-called "membranous croup," originating distinctly as a result of diphtheritic infection. Cases of unequivocal diphtheria spreading from croup, and of croup derived from diphtheria, have often been previously reported.³

Dr. Ham remarks that as his case of "croup" occurred in conjunction with two cases of diphtheria, it was comparatively easy to determine its specific and infectious character as a diphtheritic laryngitis; but he inquires how it would have been likely to be regarded if it had occurred by itself. In the latter case, according to the views which still prevail in this community, it would have been perfectly allowable to regard and to treat the case as an instance of a simple inflammatory, local, unspecific, non-infectious disease, namely, "membranous croup," and to neglect all sanitary precautions, such as isolation and disinfection. It is, however, manifest that such precautions would have been as necessary in this case of "croup" as in any case of the most malignant form of diphtheria.

The *Lancet*,⁴ not long ago, contained an editorial article on The Nature of the Diphtheritic Membrane, in which the following pertinent statements were made: "There have been few subjects in pathology more debated than diphtheria and the special lesion which characterizes it, — from which, indeed, it takes its name; and few about which so much needless confusion and mystery have clung. We may now fairly assume that the vexed question of identity between this disease and that styled "membranous croup" has been set at rest. . . . At any rate, it has been shown conclusively on all sides that there is no anatomical difference in the two diseases, but only a topographical difference as to the seat of the exudation; and similarly, one by one, all ætiological, clinical, and other distinctions have faded before the exhaustive analysis of modern inquiry."

¹ See the JOURNAL, December 2, 1880, page 554.

² See the JOURNAL, July 5, 1877, page 4; and March 14, 1878, page 331.

³ See J. Lewis Smith's Diseases of Infancy, etc., Philadelphia, 1876, page 239; also Dr. B. E. Edson, in the New York Medical Record, May 5, 1877.

⁴ The Lancet, September 4, 1880, page 383.

The practical interest of the question raised once more by Dr. Ham lies in the now generally admitted *infectiousness* of all cases of *true* or *membranous* croup. As I once had occasion to remark⁵ in your journal, "it is comparatively unimportant, after all, under what *names* cases are recorded, provided that we are careful to keep on the safe side in matters relating to their practical management." Yours truly,

T. B. CURTIS.

MALPRACTICE CASE.

The *Canada Lancet* publishes the following: An action for damages was brought up at the October assizes in this city by a man named O'Dea against Dr. Irwin H. Cameron, for alleged unskillful treatment and neglect of a dislocation of the elbow-joint, in November of last year. The plaintiff, a coal-heaver, in a scuffle with a fellow-workman, was thrown down, striking the plank of the sidewalk and dislocating his elbow. Dr. Cameron, assisted by Dr. Nevitt and a medical student, attended to the injury. They adopted the usual methods of reduction, and state that they heard distinctly the "click" caused by the return of the bones to their places, and were satisfied that the dislocation was reduced. Pain and swelling still continued for a considerable length of time, but finally subsided. Passive motion was resorted to after the lapse of a few weeks. The arm was examined some time in February, 1880, by Dr. H. H. Wright, but beyond some thickening and a little outward motion of the fore-arm nothing amiss was discovered by him. The patient was not seen afterwards until the month of May. At this time the thickening at the elbow had entirely disappeared, and, while the motions of the joint were apparently good, there was undoubted dislocation of the ulna and radius outwards and backwards. This was the condition of the joint as seen in court. Flexion and extension were present to a very considerable extent, and the arm showed a strong disposition to fall outwards. The plaintiff had resumed work, and it was found that he had very fair use of the arm, except when working overhead, or in climbing out of the hold of the vessel.

The trial lasted two days, and excited considerable interest among the members of the medical profession. As is usual in such cases, there was abundant medical evidence on both sides of the case. Some of the medical witnesses for the plaintiff thought the dislocation had never been reduced, and that negligence and unskillfulness might be imputed. The plaintiff, his wife, and father testified that the arm had not received any subsequent injury. A large number of medical witnesses were examined for the defense, and all concurred in the opinion that neither unskillfulness nor negligence was manifested in the treatment of the case. They all agreed that there was dislocation of both radius and ulna, outwards and backwards, and that it was secondary; caused either by fracture of the outer condyle of the humerus, which had failed to unite properly, from using the arm too soon after the injury, or by the occurrence of a second accident, taking place probably between the months of February and May. The judge (Justice Morrison) decided that there was no case for the jury, and a nonsuit was accordingly entered.

⁵ The Relations of Diphtheria and "Croup." The JOURNAL, March 14, 1878, page 334.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 27, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	638	248	28.06	16.93	16.77	4.39	1.10
Philadelphia.....	846,980	343	103	19.53	4.66	7.00	4.08	3.21
Brooklyn.....	566,689	257	98	32.30	27.24	15.56	2.30	.38
Chicago.....	503,298	200	95	33.50	27.00	10.50	3.00	1.00
St. Louis.....	—	121	38	14.88	4.96	7.44	—	2.48
Baltimore.....	393,796	151	54	25.17	11.26	7.28	3.97	3.97
Boston.....	363,938	167	64	26.35	17.37	11.38	2.39	3.59
Cincinnati.....	280,000	98	28	22.45	10.20	13.27	—	8.16
New Orleans.....	210,000	131	42	10.69	3.82	6.11	1.53	.76
District of Columbia.....	180,000	82	34	13.41	4.88	15.85	—	—
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	75	30	25.33	6.67	12.00	12.00	4.00
Buffalo.....	155,159	38	15	28.95	13.16	5.26	2.63	2.63
Milwaukee.....	127,000	52	29	30.77	5.77	5.77	21.15	—
Providence.....	104,862	35	8	22.86	14.29	8.57	—	2.86
New Haven.....	63,000	24	8	8.33	8.53	—	—	—
Charleston.....	57,000	28	8	7.14	—	7.14	—	—
Nashville.....	43,543	15	3	26.67	6.67	20.00	—	6.67
Lowell.....	59,340	14	8	21.43	7.14	—	—	—
Worcester.....	58,040	22	12	36.36	9.09	—	4.55	4.55
Cambridge.....	52,860	13	5	15.38	7.69	38.46	—	—
Fall River.....	48,626	19	7	15.80	5.26	—	—	—
Lawrence.....	39,068	15	3	6.67	—	6.67	—	—
Lynn.....	38,376	12	5	25.00	8.33	—	8.33	—
Springfield.....	33,536	6	3	16.67	—	—	—	—
Salem.....	27,347	14	4	14.29	14.29	14.29	—	—
New Bedford.....	27,268	7	1	—	—	—	—	—
Somerville.....	24,964	7	3	14.29	14.29	14.29	—	—
Holyoke.....	21,961	3	0	—	—	—	—	—
Chelsea.....	21,780	10	5	60.00	50.00	—	—	10.00
Fauntun.....	21,145	11	2	9.09	9.09	27.27	—	—
Gloucester.....	19,288	5	1	—	—	40.00	—	—
Haverhill.....	18,478	7	4	28.57	14.29	—	—	—
Newton.....	16,994	—	—	—	—	—	—	—
Newburyport.....	13,470	10	3	20.00	10.00	10.00	—	10.00
Fitchburg.....	12,270	6	0	—	—	16.67	—	—
Nineteen Massachusetts towns.....	153,746	44	16	29.55	9.09	6.82	—	9.09

Deaths reported 2680; 987 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 653, consumption 421, diphtheria and croup 361, lung diseases 306, scarlet fever 86, typhoid fever 58, diarrhoeal diseases 40, malarial fevers 32, small-pox 28, cerebro-spinal meningitis 15, whooping-cough 13, measles 12, erysipelas eight. From *diarrhoeal diseases*, New York 11, Brooklyn four, Baltimore, Cincinnati, and District of Columbia three, St. Louis, New Orleans, Charleston, and Nashville two, Chicago, Boston, Buffalo, Milwaukee, Providence, Cambridge, Lynn, and Clinton one. From *malarial fevers*, New York 11, St. Louis five, New Orleans four, Brooklyn, Baltimore, and District of Columbia two, Chicago, Buffalo, Providence, Worcester, Lawrence, and Northampton one. From *small-pox*, Philadelphia 25, New York three. From *cerebro-spinal meningitis*, New York four, Worcester two, Chicago, Baltimore, Boston, District of Columbia, Pittsburgh, Buffalo, Milwaukee, Haverhill, and Brockton one. From *whooping-cough*, New York and Baltimore three, Chicago, Cincinnati, District of Columbia, Buffalo, Lowell, Fall River, and Springfield one. From *measles*, Boston four, New York three, Chicago, St. Louis, Pittsburgh, Lowell, and Fall River one. From *erysipelas*, Boston two, New York, Philadelphia, St. Louis, Worcester, Weymouth, and Milford one.

One hundred and thirty-nine cases of diphtheria, 63 of scarlet fever, seven of measles, three of typhoid fever, and one of whooping-cough were reported in Brooklyn; diphtheria 55, scarlet fever 15, in Boston; scarlet fever 52, diphtheria 23, in Milwaukee; diphtheria five, scarlet fever four, whooping-cough four, measles two, typhoid fever two, in Providence; scarlet fever two, typhoid fever two, diphtheria one, in Cambridge; scarlet fever seven, diphtheria three, in New Bedford; diphtheria three, typhoid fever two, in Somerville.

In 37 cities and towns of Massachusetts, with a population of

1,055,501 (population of the State 1,783,086), the total death-rate for the week was 19.42, against 18.70 and 19.68 for the previous two weeks.

For the week ending November 6th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.7. Deaths reported 3258: acute diseases of the respiratory organs 355, scarlet fever 150, diarrhoea 78, fever 70, measles 50, whooping-cough 49, diphtheria 24, small-pox (London) seven. The death-rates ranged from 16 in Portsmouth to 30 in Salford and Liverpool; Sheffield 18; Birmingham 20; London and Leeds 22; Bristol 24; Manchester 26. In Edinburgh 24; Glasgow 25; Dublin 34.

For the week ending November 13th, in the 20 English cities, the death-rate was 22.8. Deaths reported 3279: acute diseases of the respiratory organs, 421, scarlet fever 163; measles 71, fever 69, whooping-cough 62, diarrhoea 60, diphtheria 32, small-pox (London) 17. The death-rates ranged from 17 in Bristol to 29 in Sunderland; Sheffield 19; Leeds 20; Birmingham 22; London 23; Liverpool and Manchester 25. In Edinburgh 23; Glasgow 24; Dublin 40.

For the week ending October 30th, in 149 German cities and towns, with an estimated population of 7,656,526, the death-rate was 22.8. Deaths reported 3354; 1597 under five: pulmonary consumption 397, acute diseases of the respiratory organs 246, diphtheria and croup 163, scarlet fever 100, typhoid fever 62, whooping-cough 53, measles and rütheln 37, puerperal fever 16, small-pox (Königsberg) two. The death-rates ranged from 13.5 in Lübeck to 33.2 in Würzburg; Königsberg 21.4; Breslau 22.4; Munich 28.4; Dresden 19.8; Berlin 25.7; Leipzig 17.2; Hamburg 21; Hanover 19.4; Bremen 17.7; Cologne 27.5; Frankfurt 16.4; Strasburg 24.2.

For the week ending November 6th, in 149 German cities and towns, with an estimated population of 7,740,471, the death-rate was 23.1. Deaths reported 3442; 1562 under five: pulmo-

nary consumption 446, acute diseases of the respiratory organs 269, diphtheria and croup 172, scarlet fever 93, typhoid fever 74, whooping-cough 57, measles and röteln 30, puerperal fever 18. The death-rates ranged from 12.9 in Duisburg to 36.1 in Dortmund; Königsberg 27.7; Breslau 25.4; Munich 24.7; Dresden 22.4; Berlin 25.4; Leipzig 22.1; Hamburg 21.9; Hanover 16.1; Bremen 23.4; Cologne 29; Frankfurt 21.2; Strasburg 17.6.

In the 20 chief towns in Switzerland for the weeks ending

November 6th and November 13th, population 522,856, there were respectively 27 and 18 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 16 and 16, diphtheria and croup three and eight, typhoid fever five and two, small-pox five and two, whooping-cough one and one, scarlet fever one and none, measles none and one. The death-rates of the principal cities were: Geneva 24.3 and 18.4; Zurich 19.5 and 7; Basle 30.6 and 15.3; Berne 20.9 and 24.6.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in inches.
Nov. 21	30.207	25	37	20	64	34	45	48	W	W	W	23	24	16	F	C	C	—	—
" 22	30.493	18	24	14	48	21	35	35	W	W	W	15	19	13	C	C	C	—	—
" 23	30.489	18	25	11	80	24	37	47	W	W	W	12	22	14	C	C	C	—	—
" 24	30.598	25	34	11	62	34	24	40	W	W	S	15	6	7	C	H	O	.25	1
" 25	30.284	26	33	21	88	58	74	73	W	N	NW	7	15	11	S	O	F	7.10	.02
" 26	30.462	21	32	13	81	42	47	57	N	SE	W	11	5	5	C	C	F	—	—
" 27	30.404	24	35	13	65	51	75	64	W	W	W	7	6	6	O	F	C	—	—
Week.	30.420	23	37	11					W	W	W							7.35	—

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

² Too small to measure.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 27, 1880, TO DECEMBER 3, 1880.

MAJORS J. R. SMITH and J. S. BILLINGS, surgeons, directed to represent the medical department of the army at the eighth annual meeting of the American Public Health Association in New Orleans, La., on December 7, 1880, and upon adjournment of the association to rejoin their proper stations. S. O. 251, A. G. O., November 26, 1880.

COUGS, ELLIOTT, captain and assistant surgeon. Relieved from duty assigned him in S. O. 134, July 3, 1876, from A. G. O., and to report in person to the commanding officer, Department of Arizona, for assignment to duty. S. O. 251, A. G. O., November 26, 1880.

KING, J. H. T., captain and assistant surgeon. Granted leave of absence for four months. S. O. 253, A. G. O., November 29, 1880.

HOFF, J. V. R., captain and assistant surgeon, Fort Monroe, Va. Granted leave of absence for one month. S. O. 208, Department of the East, November 26, 1880.

THE "HAMMOND PRIZE" OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

THE American Neurological Association offers a prize of five hundred dollars, to be known as the "William A. Hammond Prize," and to be awarded at the meeting in June, 1882, to the author of the best essay on the Functions of the Thalamus in Man.

The conditions under which this prize is to be awarded are as follows:—

- (1.) The prize is open to competitors of all nationalities.
- (2.) The essays are to be based upon original observations and experiments on man and the lower animals.
- (3.) The competing essays must be written in the English, French, or German language: if in the last, the manuscript is to be in the Italian handwriting.
- (4.) Essays are to be sent (postage prepaid) to the secretary of the Prize Committee, Dr. E. C. Seguin, 41 West Twentieth Street, New York City, on or before February 1, 1882; each essay to be marked by a distinctive device or motto, and accom-

panied by a sealed envelope bearing the same device or motto, and containing the author's visiting card.

(5.) The successful essay will be the property of the association, which will assume the care of its publication.

(6.) Any intimation tending to reveal the authorship of any of the essays submitted, whether directly or indirectly conveyed to the committee or to any member thereof, shall exclude the essay from competition.

(7.) The award of the prize will be announced by the undersigned committee, and will be publicly declared by the president of the association at the meeting in June, 1882.

(8.) The amount of the prize will be given to the successful competitor in gold coin of the United States, or, if he prefer it, in the shape of a gold medal bearing a suitable device and inscription.

Signed:

F. T. MILES, M. D., Baltimore,
J. S. JEWELL, M. D., Chicago,
E. C. SEGUIN, M. D., New York.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, December 11th, at seven and a half o'clock. The following paper will be read: Dr. F. H. Hooper, Two Cases of Subscapular Abscess, attended in one case by Perforation of the Lung.

By vote of the society, the last regular meeting of this month will be omitted.

All members of the Massachusetts Medical Society are cordially invited to be present, and to take part in the discussion.

H. C. HAYES, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — On the Construction, Organization, and General Arrangement of Hospitals for the Insane, with some Remarks on Insanity and its Treatment. By Thomas S. Kirkbride, M. D. Second Edition. Philadelphia: J. B. Lippincott & Co. 1880.

A New Case Record. General and Gynecological. For Chronic and Acute Cases. Joel A. Miner, Ann Arbor, Mich. The Physician's Memorandum Book. Arranged by Joel A. Miner. Fifth Improved Edition, with Clinical Columns and Ledger Sheets. Ann Arbor: Joel A. Miner.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERT BARTHOLOW, M. D.

FIFTH LECTURE. THE ANTAGONISM BETWEEN REMEDIES AND DISEASES.

IN commencing the second division of his subject, Dr. Bartholow said that the doctrine or law of antagonisms was necessarily applicable only to the state of physiological pathology,—if he might be permitted such a phrase,—and not to structural pathology, unless remediable by physiological processes. For example, the pathological state induced by fluxionary hyperæmia might be removed by agencies acting on the vessels in the opposite way. A cachexia or diathesis, as the cancerous or tubercular, sclerosis of organs, etc., could not be affected by opposed or similar remedies; yet some important symptom occasioned thereby might be acted on, as, for instance, fever, which might be subdued, and its ill effects prevented, by the proper use of some antagonist to the fever process.

The first historical example of the treatment of a symptom of a diseased state by its physiological antagonist was the treatment of paralysis by strychnia. As had been already shown, we owed our present knowledge of strychnia to the labors of Magendie, whose research was so thorough that subsequent investigators had been able to add but little to his results. Fouquier and Magendie, recognizing the opposition of actions between the new poison and paralysis, proposed to prescribe it when suitable cases occurred, but Fouquier had the good fortune to meet with suitable cases before the discoverer. Strychnia exalted the reflex functions of the spinal cord, and was therefore properly the antagonist of those conditions of disease in which this function was weakened. It also energized the heart and raised the arterial tension by stimulating the vasomotor system, and therefore opposed all actions from disease of a contrary kind. Furthermore, it was a powerful stimulant of the respiratory function, and caused death by asphyxia,—by so stimulating the muscles of respiration that they became tetanically contracted,—and was, consequently, the antagonist of those symptoms indicating respiratory depression. After speaking more particularly of the good effects of strychnia in diphtheritic paralysis and the so-called reflex paralyses, the lecturer went on to say that the power of this remedy to give energy to the cardiac movements and to raise the arterial tension was not utilized in medical practice as it should be. The weak heart, from degenerative changes in the cardiac muscle, and coincident low tension of the vascular system were conditions antagonized by strychnia; and exhausting hæmorrhage, the action of the heart being weak and the vascular tension low, also afforded a combination to which the action of strychnia was opposed. Modern experience had in a similar way utilized strychnia in the treatment of depressed states of the respiratory organs by a merely empirical method; and it had come to be recognized that it was a respiratory stimulant which was of special service in chronic bronchitis, in asthma from paresis of the diaphragm, and in emphysema, with dilated right cavities of the heart.

The relation in which strychnia stood to paralysis was comparable to that of the paralyzing agents to spasm and cramp. The first physiological research to determine the existence of muscular irritability was the memorable study of woorara by Bernard. This was the only remedy which had, apparently, exerted a curative influence on hydrophobia. It destroyed the irritability of the end organs of the nerves in the muscles, leaving the muscles themselves intact, but it also depressed and suspended the reflex function of the spinal cord, and paralyzed respiration. Hydrophobia produced symptoms in opposition to these, and hence they ought to cease on the exhibition of woorara. Unfortunately for any certain results, however, this agent varied much in composition, and in hydrophobia a peculiar virus was present, which did not apparently diffuse out of the blood, but continued in action until death occurred from exhaustion, if not from the spinal effects of the poison.

No similitude in the action of a remedy and the symptoms of a disease could be greater than that between strychnia and tetanus, so that it might, perhaps, naturally be supposed that the affection would be cured by strychnia. As it was not, however, we had a striking illustration of the fallacies in the ancient doctrine of similars. There were six remedies which had been used with success in the treatment of tetanus: chloroform by inhalation, chloral, tobacco or its alkaloid nicotine, bromide of potassium, physostigma, and gelseminum. How much so ever these agents might differ in other points of action, they all agreed in the power to diminish or suspend the reflex functions of the spinal cord. They therefore acted in opposition to this distinctive symptom,—an exaggerated reflex sensibility.

In convulsions of an epileptiform type some antagonists that had a similarity of action, and some, also, that acted in the opposite way, were employed. Picrotoxine represented the former class, and potassium bromide the latter. Agents having a similarity of action stimulated the spasm centre, but as inhibition resulted when two impressions coming from different points were made on the spinal cord simultaneously, so here quiescence, or the normal equilibrium, was the result when the disease impression and the medicine impression acted on the spasm centre at the same time. As picrotoxine rather increased cerebral hyperæmia, if it existed, and promoted the intracranial circulation when weak or deficient, it was obviously adapted to those states characterized by anæmia and depression. On the other hand, bromide of potassium produced its best effects when the subject rather tended to plethora, and when the intracranial circulation was too active.

A capital application of the principle of antagonism, as exhibited in the opposition of the action of a medication to an important symptom of a disease, was the use of nitrite of amyl to abort the epileptic paroxysm. It was known to all, of course, that the epileptic paroxysm was inaugurated by a sudden deathly pallor, in which the arterioles of the brain were strongly contracted, and an extreme degree of anæmia induced. Then followed the tetanic stage, with suspension of respiration and cyanosis. By the timely administration of amyl nitrite by inhalation, these phenomena might be prevented and the fit aborted. No sooner was a whiff of the vapor inhaled than the arterioles became dilated (a bright flush taking the place of the pallor), the stage of rigidity did not come on, and, in

fact, the epileptic paroxysm, which had been imminent, failed to develop. The principle of antagonism applied equally to the treatment of chorea; and the most successful treatment was that which had for its objects the maintenance of a quiet state of the motor centres and the prevention of those irregular discharges of nervous force which constituted the physiognomy of the malady.

In certain neuroses of the respiratory and circulatory organs the phenomena of antagonism were exhibited in perfection. Having dwelt briefly upon the treatment of laryngismus stridulus, spasmodic asthma, whooping-cough, and other diseases of the respiratory organs which were characterized by the occurrence of spasm, he stated that singultus, or hiccough, afforded an apt illustration of both modes of antagonism, — by similarity and by opposition. In singultus, a recurring spasm of the diaphragm was supposed to be the condition, and it had already been shown that if a powerful faradic current were passed at the moment the spasm was to take place it was entirely aborted. The reflex spasm did not take place because of the strong irritation of the peripheral fibres, inducing inhibition. The remedies acting by opposition were those which lessened and suspended reflex action, as the anæsthetics, morphia, the bromides, amyl nitrite, chloral, etc. He next explained the action of nitrite of amyl in relieving angina pectoris; after which he said that the same principle of antagonism obtained in the treatment of pain.

The sensation known as pain was composed of several elements: the peripheral irritation, the transmission of the impression to the centre, and its realization by consciousness. It followed that pain might be relieved both by interrupting its transmission to the centres of conscious impressions and by suspending the functions of these centres. For example, aconite and gelsemium relieved pain in the former, and the anæsthetics in the latter mode. The anæsthetics, if locally applied, had the same effect in relieving neuralgia as aconite, and were therefore antagonistic to both peripheral and centric neuralgia. The deep injection of chloroform for sciatica, cervico-brachial neuralgia, coccydynia, and neuralgia of nerves in accessible situations generally was an expedient of the highest value. Since he had brought this method forward, a few years ago, Dr. Bartholow had had a large experience of its use in sciatica, neuralgia of the infra-orbital and supra-orbital branches of the fifth, and intercostal and cervico-brachial neuralgia, and he could reaffirm with emphasis his original statements.

The most powerful means for the relief of pain which we now possessed — the hypodermic injection of morphia and atropia combined — was an illustration of the utility and advantage derived from the study of physiological antagonism. The mutual interactions of morphia and atropia were such that, whilst the pain-relieving power was not impaired, but enhanced by combination, other signal disadvantages of each were compensated for in the action of both. He then enlarged upon the advantages of combining the subcutaneous injection of morphia and atropia with the administration of anæsthetics, in accordance with the principles mentioned in a preceding lecture, after which he passed on to the consideration of mental states and their antagonists.

The antagonism of a mental state by the action of a remedy, he said, implied the fact that the mental

was a mere symptom of the physical condition. Those who believed otherwise were, indeed, few in number, and were constantly diminishing, as the progress of our means of minute research developed more and more fully the dependence of symptoms on lesions. The antagonism of insomnia to sleep-producing medicinal agents was conspicuously demonstrated in the action of chloral. Acute delirious mania and acute mania, when due to physiologico-pathological states, and not dependent on unchangeable structural lesions, were antagonized by the same agent, and often speedily cured by its timely exhibition. High excitement, with illusions and hallucinations, and great motor activity were antagonized by gelsemium, duboisia, hyoscyamia, conium, and other remedies acting similarly. Melancholia, with torpid movements and suicidal notions, was antagonized by morphia. Acute cerebral congestion of the active form was opposed by such arterial sedatives as aconite, veratrum viride, and potassium bromide, and acute congestion of the passive form by digitalis, ergot, etc. Anæmia of the brain was removed by strychnia, brucia, atropia, quinia, and other excitants. It followed that mental changes dependent on these vascular states must be largely controlled by the timely use of the appropriate antagonist.

Closely allied to these conditions was that state of the vessels disposing to the formation of miliary aneurisms. It might appear a fanciful speculation to suggest that these changes preparatory to cerebral hæmorrhage, as affecting the nutrition of the brain unfavorably, might be retarded, possibly prevented, by the early use of such agents as ergot, digitalis, quinia, chloride of barium, etc. Although the nutritional alterations in the vessel-walls preceded the formation of miliary aneurisms, the progress of the changes was promoted by the relaxation of the muscular layer. Agents which improved the vascular tonus had therefore the important function of retarding the nutritive changes.

In the whole pathological field, the lecturer continued, there were no more perfect illustrations of the applicability of physiological antagonism to the therapeutics of disease than in the case of the various heart maladies. The most exact antagonism had been shown between remedies acting on the heart, and it would now be seen that similar exactness existed in the antagonism between remedies and diseases of the heart. As an example of opposition to excessive action of the heart from a diminution in the energy of the inhibition, the treatment of exophthalmic goitre by galvanism, digitalis, and ergot was explained; and he then went on to say that in some maladies such a strong inhibitive influence descended along the pneumogastric that the heart was restrained and its movements greatly retarded. Again, the heart might be slowed by agencies paralyzing the accelerator apparatus or the motor ganglia. The excess of the inhibition was overcome by such an agent as aconite, which depressed the functions of the inhibiting nerve, while the paralysis of the accelerator apparatus or the motor ganglia was overcome by the stimulants of these organs, of which atropia was the best representative. After mentioning the causes of palpitation of the heart, he spoke of the action of digitalis, and stated that he believed that its use was carried much too far at the present day in the treatment of cardiac weakness. Long-continued medicinal doses (like lethal doses acting more promptly) eventually exhausted the irritability of the apparatus on which the effects of the agent were expended, and

it would then cease to antagonize the symptoms against which it had been prescribed. The practical deduction was that digitalis should be given in moderate doses, and not too frequently repeated. This branch of the subject was concluded with a reference to the treatment of aneurisms by medicinal means, and respiration remedies and diseases were then taken up.

The action of remedies employed against the neuroses of the respiratory organs, Dr. Bartholow said, had already been sufficiently elucidated. As regards the remedies which depressed the respiratory function, it was enough to remark that the only purpose to which they could be properly applied was to impose rest on the breathing organs by diminishing the number and lessening the exertion of the respiratory efforts. In respect to the stimulants of the respiratory function, much good resulted from their timely use. The special uses of strychnia and atropia in this connection were then pointed out.

The action of antagonistic medicines, he continued, was well exhibited in the diseases of the intestinal tube. A serous diarrhoea was promptly checked by belladonna. Opium suspended intestinal movements and stopped secretion; it therefore relieved conditions of an opposed kind, namely, diarrhoea and dysentery. Constipation, due to torpor or paresis of the muscular layer of the bowel, was often promptly cured by the faradic current. When the muscular layer was parietic and secretion deficient, the relief afforded by opposing agents, such as nuxvomica, belladonna, and physostigma, was very remarkable.

Coming now to the action of remedies upon the skin, he said that in the night-sweats of consumption atropia, duboisia, hyoscyamia, and other members of the group opposed the conditions present, and dried the surface. A deficiency in the amount of cutaneous secretion required the use of sudoriparous medicines, and pilocarpine stood at the head of the agents of this class. Picrotoxine had considerable power as a sudorific, but it was far inferior to pilocarpine. Finally, he discussed the action of remedies on affections of the kidneys and bladder, and then concluded the lecture in these words: "With this general survey of the organs and systems of the body, I conclude the first part of the second division of my subject. In the next, and final, lecture of the course I have to discuss the most important of the practical relations of this subject to the treatment of diseases, namely, the application of the principle of physiological antagonism to the therapeutic management of general or constitutional states."

— Gaillard's *Medical Journal* makes the following comment: "Rabelais. The *Boston Medical Journal* twits this journal with spelling this word incorrectly, thus: Raballais. A prominent medical friend states that he saw 'the proof,' and that the error had been twice corrected by the editor. Were Rabelais alive Johannes Caballus would have a dangerous rival.

"As the anecdote (contributed by Dr. Geddings of South Carolina) has been quietly appropriated by a half dozen medical editors, who have all spelled the name Rabelais incorrectly, cannot the Boston editor use a few arrows from his overstocked quiver? The list of the editors who have been caught in this trap would be amusing."—These remarks being sufficiently barbed, our arrows may well be kept for other uses.

Original Articles.

FÆCAL ANALYSES.¹

BY EDWARD D. PETERS, JR., M. D., OF DORCHESTER.

INTRODUCTION.

THE great mortality still existing among children under one year of age in private life, and more especially in foundling hospitals, seems to the author of this paper a sufficient apology for adding a few more pages to the enormous mass of literature already bearing on this subject. He has limited himself to a partial study of the digestive process in infants, and must therefore omit any mention of the almost equally important factors of cleanliness, ventilation, and motion. His aim has been rather to give the results of actual experiment than to enter into any extended discussion of the subject.

The chemical and microscopical investigations described in the second section are imperfect and partially unsatisfactory, owing to the great difficulties that are inseparable from work of this peculiar character.

The opportunity for most of this work was kindly furnished by the authorities of St. Mary's Infant Asylum.

SECTION I.

Nature has indicated so plainly to man the food suited to his wants during the first eight months of existence that any discussion on the subject might seem a waste of time. But the wide-spread domestic use of flour and rice gruels, paps, and other varieties of starchy aliment as a partial or entire substitute for milk, in the feeding of infants, shows that natural laws are disregarded or misunderstood, and invites a repetition of the well-worn though convincing proofs that animal food is the proper nourishment for the human infant, and that among the various animal foods milk is the natural and only necessary one.

The analogy of comparative anatomy demonstrates with great force and distinctness that all young animals, whether carnivorous or herbivorous, require animal food for a greater or less period after birth, and to omnivorous man this proposition applies with equal weight. This nourishment is provided in a great variety of manners; but in whatever form it is produced, it is almost universally animal, either from the beginning, or by undergoing various modifications before reaching its destination. In the lower forms of animal life, especially among the mollusca and the batrachian reptiles, a nidamentum is produced together with the egg, which serves as nourishment for a considerable period after birth. Carnivorous birds bring food to their young, either in their claws or beaks, in the shape of worms, insects, fish, or carrion.

According to Cuvier, some of the granivorous birds, even, change their habits during the breeding season to such an extent as to bring flies, spiders, and worms for the nourishment of their young,—a species of food which, under ordinary circumstances, they would never touch. Others of the granivorous birds find this practice unnecessary, as they are provided with a dilatation of the mucous membrane of the œsophagus, forming a crop, into which the grain and seeds, so difficult of digestion, are first conveyed, and with the aid of an acid fluid, having a strong resemblance to the gastric juice,

¹ Read before the Norfolk District Medical Society, October 26, 1880.

are converted into a species of chyme, which on being disgorged is readily digested and assimilated in the stomach and intestines of their offspring. This occurs with all pigeons and among several species of sparrows; and the half-digested, regurgitated, semi-fluid mass is popularly called "pigeon's milk."¹

Among the mammalia we arrive at the perfection of nutrition: for here, the mother, no matter what the character of her own food, supplies an animal fluid in every way perfectly adapted to the nourishment of her offspring. A very little reflection would convince any observer, that if among herbivorous mammalia the young require animal food, this is *a priori* a strong argument against the use of vegetable food in omnivorous animals.² But if this seem insufficient, a glance at the physiological construction and anatomical arrangements of the digestive organs of a young child should remove all doubt.

The only faculty possessed by the new-born infant which is of any value to it as a means of obtaining nourishment is the power of suction. But this it possesses to a remarkable degree, as will be seen on examination of its anatomical peculiarities, which are well described in Burdach's Physiologie. The jaws are capable of only slight motion, and the gums can bear but little pressure, while the hard palate is very imperfectly developed. Such a condition of things forbids the use of any food requiring mastication; and, aside from this, there is during the first two months of life a total want of the salivary secretion, showing plainly that of all aliments starchy food would least subserve the purposes of nutrition.

The mouth must therefore be looked upon simply as a canal for the transmission of fluids; possessing the power of suction, but having neither taste, by which proper food might be discriminated, power of mastication, by which vegetable or other hard foods might be chewed, or saliva, through the agency of which starch might be converted into sugar. The lips are long, large, and prehensile, and in every way suited to the grasping of the nipple; while the tongue, pharynx, and uvula are disproportionately developed, and peculiarly adapted to the faculty of suction.

The stomach is extremely small and tube-shaped, and in fact seems merely an œsophageal dilatation; while its walls are thin and translucent, and their muscular structure very slightly developed. The liver is disproportionately large, and the pancreas, on the other hand, almost rudimentary; while the intestinal tube is short, the large intestine approaching more nearly in its length to the small. The peristaltic motion is wonderfully rapid, and shows, in connection with the above-stated anatomical peculiarities, that any food taken will remain but a short time in the alimentary canal, and requires, therefore, to be in a very favorable condition for digestion.³

The complete absence of teeth agrees perfectly with this conclusion, and it is not until their eruption that the stomach enlarges, and develops its strong muscular coat; the peristaltic motion of the intestines becomes slower, the vulvulæ conniventes appear, and in fact⁴ "all the changes calculated to retard the food in its progress, and thus expose it more completely to the solvent juices for digestion, occur."

¹ Burdach's Physiologie als Erfahrungswissenschaft.

² Routh's Infant Feeding, page 46.

³ West's Diseases of Children.

⁴ Routh's Infant Feeding.

SECTION II.

The study of the digestive process in the human infant, as ordinarily conducted, is accompanied by many difficulties and inaccuracies. By weighing the subject of experiment at stated intervals, carefully noting the quality and amount of food ingested, and the condition of the stomach, bowels, kidneys, and skin, a general idea may be obtained as to the kind of nourishment best adapted to its wants. By extending these observations to a large number of cases, some very useful results may be obtained, and certain laws may be laid down with considerable accuracy. But in most instances this plan will be found very insufficient for any one who desires to obtain a reasonable degree of scientific exactness; and to such an observer the examination of the excretions offers a more promising field.

Without recapitulating the work that has already been done in this direction, the author simply proposes to give in this paper the result of his own investigations and some of the inferences that can naturally be drawn from them. These investigations comprise the chemical and partial microscopic examination of the fæces of infants of different ages, enjoying various degrees of health and fed on a variety of substances. Care has been had to lessen the unavoidable inaccuracies as much as possible by taking every feasible precaution. The fæces were collected, weighed, their percentage of moisture determined, and their digestion with alcohol begun, in every case, within twenty four hours after being passed.

The first series of experiments consisted of the examination of the excrement of six healthy infants, between six and nine weeks of age, and whose sole nourishment was their mothers' milk.

A valuable paper by H. Wegscheider⁵ might perhaps have rendered these first experiments unnecessary; but it was thought best to repeat them in order to establish a positive normal basis for the succeeding work.

The color of the dejections varied between a pale yellow and a yellowish-green; those infants in whom it most nearly approached a green being most subject to wind and colicky pains,—a fact well known among the nurses. The reaction was acid in nearly all cases. The stools examined were, without exception, in a semi-fluid condition, and their original weight and percentage of water could not therefore be exactly determined. The figures contained in the following table must consequently be accepted as relative, and not absolute.

	Average number of motions in 24 hours.	Weight in 24 hours, in grammes.	Per cent. of water and substances volatile at 100° Cent.	Actual weight of solid matter in 24 hours, in grammes.
1	3	44	82	7.92
2	3.33	32.5	80	6
3	2.66	47.4	76	11.4
4	3	20.5	75	5.12
5	4	51	82	9.18
6	3.66	48.5	80	9.7

⁵ Ueber die normale Verdauung bei Säuglingen. Berlin, 1873.

A few deductions may be made from these experiments: (1.) Under similar conditions, the quantity of fæces passed daily may vary greatly. (2.) The amount of the fæces stands in no constant proportion to the quantity of food ingested. No. 4, The greediest feeder of all, passed a less weight both of fluid and solid matter than any of the others. The fæces of the same infants were collected during the next twenty-four hours and examined qualitatively, with results that agree closely with those obtained by Wegscheider. Under the microscope, large numbers of epithelial cells were visible, probably from the walls of the intestine. In all cases but one, crystals of margaric acid were found, and other crystals, soluble in ether, whose composition was not determined. Mucus was present in considerable quantities. *Albumen* was not detected on digesting a portion of the fæces with an equal quantity of warm water, filtering, and testing the filtrate, by boiling after slight acidulation with acetic acid, and with nitric acid. *Casein* was supposed to be present from the quantity of yellowish, curd-like flakes that could be readily isolated. Their insolubility in dilute hydrochloric acid and their speedy removal by ether proved them to be agglomerations of fatty particles. *Sugar* was found in every case—though always in small quantities—by Trommer's test, after extraction of the fæces with alcohol, evaporation, and solution of the alcoholic extract in water. *Starch* was in no case detected by the customary iodine test. *Hæmatin* could not be found in the two samples in which it was tested for, by lixiviation with cold alcohol, boiling the residue with alcohol acidulated with sulphuric acid; evaporation to a small quantity; the addition of soda in excess; filtration and evaporation of the filtrate; the addition of a drop of nitric acid, with subsequent incineration of the residue, and examination of the ash for iron in a borax bead, by means of the blow-pipe.¹ *Biliary pigments* were found in all cases examined, but were neither isolated nor carefully tested; this being considered unessential for the purpose of these experiments.

The most important inferences, therefore, seem to be that in the excrement of healthy nursing infants, under three months of age:—

- (1.) Neither albumen nor casein are found.
- (2.) Sugar occurs constantly, but in very small amounts.
- (3.) Fat is present in large quantities.
- (4.) Starch does not occur.

The next set of experiments was conducted during the succeeding forty-eight hours with the same infants, except that only four were employed instead of six; two being dropped in consequence of slight digestive disturbances. In this case the four children received, in addition to their mothers' milk, about thirty grammes each of cracker, made into a pap with water, and sweetened with a little cane sugar. This small amount of starchy material was distributed over twelve hours, in three feedings, at intervals of four hours, and the fæces for the succeeding forty-eight hours, beginning after the first feeding, were examined qualitatively, with the following results:—

The amount in three cases was larger, and the dejections more liquid, greener, and slightly offensive. In the fourth case there was no apparent difference. *Albumen* and *casein* were wanting, and *sugar* was not

perceptibly increased. *Starch* was found in large amounts in all four cases by the iodine test, both in the aqueous solution and in the more solid portion of the fæces. The fatty constituents of the dejections were much increased, as well as could be determined by the eye, microscope, and roughly approximative quantitative tests. The dejections during the last quarter of the forty-eight hours presented these peculiarities in a much less marked degree than those passed about eight hours after the first meal of pap.

It would seem, therefore:—

That ten, or at most twenty, grammes of starch produces a considerable effect on the digestive tract of a nursing infant under three months of age; that it can be detected in the excrement in large amount within eight hours after ingestion; that it increases the quantity and fluidity, and heightens the color, of the stools; and, finally, that it either directly or indirectly interferes with the absorption of fat, and consequently with the processes of nutrition.

The next observations were made on two healthy infants, aged, respectively, six and eight weeks, who were fed entirely on artificial food, consisting of equal parts of cow's milk and water, slightly sweetened and salted. The number of daily dejections averaged between two and three. Their color was a yellowish-gray, and their consistence that of very thin putty, containing a large amount of curdy masses. Examined under the microscope, after dilution with water, there was found: (1.) A great abundance of epithelial cells. (2.) Fat globules in large quantities. (3.) A considerable number of crystals of the fatty acids. (4.) Long, string-like bodies, which proved to be ropy mucus.

A qualitative examination of this material yielded the following results: *Albumen* was absent. *Casein* was found in small quantities. The curd-like masses referred to above, after being isolated as far as practicable, were treated with ether, which removed about seventy per cent., by weight, of their substance. There remained a yellowish, skeleton-like material, which was found by the tests already mentioned to consist principally of casein, stained with coloring matters. These curd-like flakes therefore consisted of a delicate framework of casein, inclosing about twice its own weight of fat. *Sugar* was present in considerably greater amounts than in the preceding cases. The same may be said of the fatty constituents. *Starch* could not be found by repeated tests.

These results are about what might be expected in the case of infants fed on cow's milk. The only feature of particular interest is the occurrence of the casein, which was no doubt coagulated in the stomach, and then partially redissolved by means of the gastric and intestinal juices. The actual amount of casein, however, was far less than one would suppose from a superficial examination of the dejections; for, as already stated, more than two thirds of the weight of these coagulated masses was made up of fat.

The same children were fed, during the next twenty-four hours, on exactly similar food, with the addition of fifteen grammes of rice flour, prepared with the milk and water. The dejections for the twenty-four hours succeeding the first meal of rice flour were three in number from each child; their color more of a greenish hue, and their fluidity somewhat increased. They were more homogeneous in character, and contained none of the large coagula found in the preceding observations.

¹ Handbuch der physiologisch-und pathologisch-chemischen-Analyse. Hoppe-Seyler, s. 378.

On dilution with water, a considerable number of whitish granular specks could be seen, which gave the starch reaction, and on chemical examination were made out to consist of a mixture of starch with free and saponified fat. No casein could be found; but the amount of fat, so far as could be judged by the microscope and qualitative tests, was considerably increased.

This point seemed of sufficient interest to demand closer investigation, which was pursued as follows: The feces from the same children, after several days' feeding on their regular diet of diluted milk, were examined quantitatively for the amount of fat, by subjecting a sample of five grammes from each dejection to a drying temperature of 38° Centigrade, until free from moisture, as determined by simple condensation tests. The loss of weight is given in the table below:—

No. 1	68 per cent.
No. 2	71 per cent.
No. 3	64 per cent.
No. 4	62 per cent.
No. 5	66 per cent.

The dried fecal matter was next triturated with alcohol and filtered, to remove fat and free fatty acids; the residue was treated with hydrochloric acid and ether, to remove the fatty acids existing in combination with the alkaline earths.¹ The biliary pigments and small quantities of alkaline salts are also soluble in these reagents, but the error is a very slight one. The residue, after washing with ether, was again dried and weighed, giving the following figures, which represent the per cent. of loss:—

No. 1	44 per cent.
No. 2	48 per cent.
No. 3	36 per cent.
No. 4	37 per cent.
No. 5	51 per cent.
No. 6	50 per cent.

The average amount of fat, therefore, in the dried feces of these milk-fed infants was about forty-four per cent. Exactly similar experiments were made, after the same children had taken for twenty-four hours fifteen grammes each of rice flour in addition to the milk, which latter was given in almost precisely the same amount as before. The percentage of loss, that is, fat, after subjecting the dried feces to a similar treatment as above, was as follows, the samples being five in number:—

No. 1	57 per cent.
No. 2	64 per cent.
No. 3	60 per cent.
No. 4	41 per cent.
No. 5	66 per cent.
Average	57.6 per cent.

This seems to show that there is a decidedly greater loss of fat during the use of starchy food, a difference of 13.3 per cent. being too considerable to pass over as of no consequence. On the other hand, the total absence of casein in the feces of the rice-fed infants seems to indicate that the addition of starch to cow's milk acts favorably in promoting the assimilation of the nitrogenous portions of the food.

This last set of experiments also contains a possible source of error that must not be overlooked. A glance at the tables will show that the figures do not pretend to indicate the *actual* loss of fat during a given period, but simply the *percentage* of loss in a small sample of the dejections. The *actual* loss could only be esti-

mated by an exact weighing of the feces for a given space of time, and the determination of their percentage of fat during that time. It might even be possible that the *actual* loss of fat was greater during the period in which milk constituted the sole nourishment, provided that during such time the stools were larger or more numerous than while the starch was added. This, however, is not probable, for the amount of feces, as estimated by the eye, seemed, if anything, somewhat greater during the ingestion of the rice flour. An attempt was made to obtain their exact weight, but was given up as being too inaccurate to possess any value for quantitative purposes.

A final set of experiments was instituted to determine whether the substitution of one of the various artificial foods for the rice flour might be followed by still better results. Ridge's food was selected for the purpose, as representing a large class of the best of these preparations. It consists of wheat ground fine, without bolting, and cooked for a considerable time, with the addition of water, by which a variable but tolerably large proportion of the starch is converted into glucose. A little sugar and carbonate of soda are added. Twenty grammes of this material was made into a thin gruel with water, and added to the daily supply of milk given to each of three infants, fed heretofore on cow's milk diluted with water. The dejections for twenty-four hours were examined, with the following results: The number of motions remained as before, averaging three daily. The color was yellow, and the feces rather more liquid than usual. *Albumen* in a soluble form was wanting. *Casein* was found in two stools only, and then in very small amount. After the extraction of the fat there remained in these two cases a delicate web of casein, so fine and thread-like that it possessed no appreciable weight. *Starch* was present in all cases, but in very minute quantities. The same may be said of *sugar*. *Fat* in its various forms was found in abundance, though not in such quantities as in the preceding experiments. This same work was repeated at two different times, with pretty constant results; the details are consequently omitted.

A brief synopsis of the deductions which it seems to me may be legitimately drawn from the foregoing observations may be here in place: (1.) That in the feces of healthy, nursing infants neither albumen, casein, starch, or sugar occurs in appreciable quantities, but that fat, both saponified and in the shape of fatty acids, is always present in large amounts. This we are forced to accept as the normal condition. (2.) That the addition of a small quantity of starch to the food of nursing infants, the other conditions remaining the same, causes more liquid and offensive dejections, and increased secretion of mucus, and a decided increase in the amount of fat that escapes digestion. A large proportion of the starch passes through the digestive canal unchanged, and is found in the feces. (3.) That the feces of infants fed on diluted cow's milk contain a greater or less quantity of casein, but never so much as a superficial examination would seem to indicate, and that there is a still greater loss of fat. (4.) That the addition of starch to the cow's milk, partially or entirely, prevents the loss of casein, but that the undigested starch acts otherwise unfavorably on the processes of digestion, and particularly upon the assimilation of fat. (5.) That the addition of an alkaline mixture of starch and glucose, prepared

¹ Hoppe-Seyler.

at a high temperature, to cow's milk prevents the loss of casein, does not seem to increase the waste of fat, and is itself mostly absorbed.

MASSACHUSETTS LAWS REGARDING ANATOMICAL SCIENCE.¹

BY E. M. HARTWELL, M. A.,
Fellow of Johns Hopkins University.

ON the 1st of January, 1831, the select committee whose appointment has already been alluded to, made its report, and brought in a bill "more effectually to protect the sepulchres of the dead and to legalize the study of anatomy in certain cases." The report was written by the chairman of the committee, Mr. John Brazer Davis. The report constitutes No. 4 of the house documents for 1831, and in the printed copy is dated January 6th. Pages 3-82 inclusive are devoted to the report proper; the bill is found on pages 83-86; the list of documents accompanying the report is found on page 87; and the documents themselves fill twenty-nine pages more.

This is altogether the most exhaustive document on the subject that we have seen; inasmuch as the committee undertakes to consider, in "all its aspects, the subject committed to them, and to present not only the results, but the details, of their researches and reasonings on it." This report was considered too voluminous for the pages of this journal nearly fifty years ago. We shall not undertake to outline it within the limits of a latter-day article, in face of the fact that twenty pages octavo are taken up in tracing "the progress of anatomical science from the first rude attempts of the Greeks, through a slow progress of near two thousand years," before it is attempted to show, in nearly thirty-six pages more, that "the study and knowledge of anatomy are essential to the safe and successful practice of medicine." We unhesitatingly recommend this "faithful compilation of the facts and reasonings of distinguished men, who have devoted their attention to this subject," to the consideration of those who have to snatch time from the practice of medicine to get up "inaugural addresses" for medical colleges in States still fifty years behind the times. They will find Dr. Southwood Smith's *Uses of the Dead to the Living*, and the Report of a Select Committee of Parliament on the Hindrances to the Study of Anatomy, London, 1828, poor beside and because of the riches of this report of the Davis committee.

The legal status of dissection is noticed in the report as follows: "In 1815 a law was passed for the protection of the sepulchres of the dead, which punished the exhumation of any dead body, or the knowingly and willfully receiving, concealing, or disposing of any such dead body, by a fine of not more than one thousand dollars, or imprisonment for not more than one year. Before the passing of this act, several cases at common law were brought before the Supreme Judicial Court, in all of which, where there was a conviction, the party was punished. Where it appeared that the exhumation was for subjects for dissection, a small fine was imposed. The last case of this kind was against a now eminent physician, then of Essex County, in which several important

law points were raised; but the case does not appear to have been reported. Under the statute there have been several prosecutions, convictions, and punishments. With truth it may be said that in Massachusetts a student or teacher of anatomy cannot be found who is not indictable under the statute of 1815.

"While the law of this commonwealth is thus severe against the exhumation of dead bodies, another law has been passed, by which every practitioner of medicine is required to obtain a degree at Harvard University, or license from the medical society, before he can maintain an action for debt for his professional services. The license or degree is given on examination, and one of the prerequisites for this examination is that the applicant shall have gone through such a course of dissection as shall give him a minute knowledge of anatomy.

"The only legalized mode of supplying subjects for dissection is the sentence or order of the Supreme Judicial Court of this State and of the Circuit Court of the United States in capital convictions within their respective jurisdictions. The insufficiency of this supply may be inferred from the statements of the secretary of the commonwealth and of the clerk of the United States District Court. The former states, in answer to inquiries addressed him by the chairman of this committee, that the whole number of executions or suicides of convicts from January 1, 1800, to December 31, 1830, is but twenty-six—less than one a year. The clerk of the United States District Court, in reply to like inquiries, states that from the adoption of the federal constitution and the first organization of the federal courts down to the present time the whole number of executions and of suicides of convicts sentenced by that court in this district is but, fourteen,—being about one in three years."

The text of the act reported by the committee to the house is as follows:—

"An act more effectually to protect the sepulchres of the dead, and to legalize the study of anatomy in certain cases."

SECT. 1. *Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same,* That if any person, not being authorized by the Board of Health, overseers of the poor, or selectmen in any town of this commonwealth, or by the directors of the House of Industry, Board of Health, overseers of the poor, or mayor and aldermen of the city of Boston, in said commonwealth, shall knowingly or willfully dig up, remove, or convey away, or aid and assist in digging up, removing, or conveying away, any human body or the remains thereof, such person or persons so offending, on conviction of such offense in the supreme judicial court of this commonwealth, shall be adjudged guilty of felony, and shall be punished by solitary imprisonment for a term not exceeding ten days, and by confinement afterwards to hard labor for a term not exceeding one year; or shall be punished by a fine not exceeding two thousand dollars, to enure to the benefit of the commonwealth, and by imprisonment in the common jail for a term not exceeding two years, at the discretion of the court, according to the nature and aggravation of the offense.

SECT. 2. *Be it further enacted,* That if any person shall be in any way, either before or after the fact, accessory to the commission by any person or persons of the offense described in the first section

¹ Concluded from page 587.

of this act, such person or persons shall be adjudged and taken to be principals, and shall be, on conviction in the court aforesaid, subject to the same punishments and forfeitures as are in said first section provided.

SECT. 3. *Be it further enacted*, That from and after the passing of this act it shall be lawful for the Board of Health, overseers of the poor, and selectmen of any town in this commonwealth, and for the directors of the House of Industry, Board of Health, overseers of the poor, and mayor and aldermen of the city of Boston, in said commonwealth, to surrender the dead bodies of such persons as may be required to be buried at the public expense to any regular physician, duly licensed according to the laws of this commonwealth, to be by said physician used for the advancement of anatomical science; preference being always given to the medical schools, that now are or hereafter may be established by law in this commonwealth, during such portions of the year as said schools or either of them may require subjects for the instruction of medical students. *Provided always* that no such dead body shall in any case be so surrendered if, within twenty-four hours from the time of its death, any one or more persons, claiming to be kin, friend, or acquaintance to the deceased, shall require to have said body inhumed; but said dead body shall be inhumed, and when so inhumed any person, without the authority specified in the first section of this act, disinterring the same, or being accessory, as is described in the second section of this act, to its exhumation, shall be liable to the punishments and forfeitures in this act respectively provided. *And provided further* that every physician so receiving any such dead body before it be lawful to deliver him the same shall in each case give to the mayor and aldermen of the city of Boston, or to the selectmen of any town of this commonwealth, as each case may require, good and sufficient bond or bonds that each body by him so received shall be used only for the promotion of anatomical science; that it shall be used for such purpose only in this commonwealth, and so as in no event to outrage the public feeling; and that after having been so used the remains thereof shall be decently inhumed.

SECT. 4. *Be it further enacted*, That, from and after the passing of this act, it shall be lawful for any physician, duly licensed according to the laws of this commonwealth, or for any medical student under the authority of any such physician, to have in his possession, to use and employ, human dead bodies, or the parts thereof, for purposes of anatomical inquiry or instruction.

SECT. 5. *Be it further enacted*, That the act passed March 2, 1815, entitled, "an act to protect the sepulchres of the dead," and also all other acts or parts of acts, contravening the provisions of this act, be and the same are hereby repealed."

Appended to the report are following documents: A. Circular to Physicians of Massachusetts. B. Circular to Physicians out of Massachusetts, and letters from the following-named individuals: (1) E. D. Bangs, secretary of the commonwealth; (2) John W. Davis, clerk of Massachusetts District Court; (3) S. H. Hewes, superintendent burial grounds, Boston; (4) Dr. George C. Shattuck, Boston; (5) Dr. A. Bancroft, Groton; (6) Dr. John Bartlett, Roxbury; (7) Dr. A. Holbrook, Milton; (8) Dr. Jos. Sampson,

Brewster; (9) Dr. Joshua Frost, Springfield; (10) Dr. H. H. Childs, Pittsfield; (11) Dr. Daniel Thurber, Mendon; (12) Dr. B. Lynde Oliver, Salem; (13) Dr. A. L. Peirson, Salem; (14) Dr. Samuel L. Mitchell, New York city; (15) Dr. J. Knight, Yale College; (16) Dr. Thomas Sewall, Washington, D. C.; (17) Dr. Philip S. Physick, Philadelphia, Pa.; (18) Dr. N. Chapman, Philadelphia, Pa.; (19) Dr. Joseph Lovell, surgeon-general United States Army; (20) Dr. Valentine Mott, New York city; (21) Dr. Wm. Ingalls, Boston; (22) Dr. Chandler Robbins, Jr., Boston; (23) Dr. John C. Warren, Boston. The letters of Drs. Lovell, Peirson, and Warren are the most noteworthy.

The bill reported by the select committee on the 1st of January, 1831, appeared in print five days later. January 25th it was taken up for consideration by the house, and read twice. February 10th it was amended, and the day following, when it came up by special assignment, after being read a third time, it was passed, to be engrossed by a nearly unanimous vote, and sent up to the senate for concurrence. The bill was reported February 12th in the senate, without amendment, by Mr. Everett, and ordered to a second reading. February 24th it was passed to be engrossed, by a vote of twenty-seven to eleven, the yeas and nays having been ordered. February 26th the clerks of the two houses caused the enacted bill to be laid before Governor Lincoln, by whom it was approved and signed February 28th. The act of 1831, as approved by the governor, was printed in the Boston Medical and Surgical Journal, Volume IV., 1831, pages 85 to 87. It differs slightly from the bill brought in by the select committee. The act requires that an unclaimed body shall be kept thirty-six hours before surrendering it to the anatomists, instead of twenty-four hours, as provided in the bill. The following, found in Section 3 of the act, after the words, "have said body inhumed," is not contained in the bill: "Or, if it be made to appear to the selectmen or overseers of the poor of any town in this commonwealth, or to the mayor and aldermen or overseers of the poor of the city of Boston, that such dead body is the remains of a stranger or traveler, who suddenly died before making known who or whence he was." The act contains an entirely new section, namely, Section 5. Section 5 of the bill appears as Section 6 of the act. The interpolated section reads: "Sect. 5. *Be it further enacted*, That nothing in this act shall be so construed as to give to the board of health, overseers of the poor, or selectmen of any town in this commonwealth, or to the directors of the House of Industry, overseers of the poor, or mayor and aldermen of the city of Boston, in said commonwealth, any power to license the digging up of any dead human body or the remains thereof other than was possessed by them before the passing of this act, or is given them by the third section of this act."

The wisdom of the Medical Society and the select committee in acting on Governor Lincoln's recommendation that "the reason of men be addressed, and prejudice be dispelled by information and the force of argument," is justified by the lack of opposition to the enactment of the Davis bill. The Boston Advertiser for February 11, 1831, notes the fact that on the day previous the Davis bill had passed to a third reading in the house by a vote almost unanimous. It adds: "No discussion took place touching the general provisions or tendency of the bill. Several amendments

were offered relating to the details only. No one expressed any sentiments or opinions in opposition to the general features of the bill, but it received the approbation of all as a necessary step in the progress of improvement. This shows a marked change in public opinion since 1829, "when," to use the words of Dr. G. Hayward "the proposition to mitigate the severity of the law against those engaged in dissection was driven almost by acclamation from the legislature."

Subsequent legislation has considerably modified the act of February 28, 1831, as may be seen on consulting the acts of April 1, 1834, March 26, 1845, May 10, 1855, and March 28, 1857.

In the Revised Statutes of Massachusetts, 1835, the act of 1831 is cited as the law of "1830, 57; and its provisions, somewhat changed, are found in chapter 22, sections 9-12, page 216, and in chapter 130, section 19, page 741.

In sections 1 and 2 of the original act, unauthorized exhumation is made a felony. Offenders guilty of it, whether principals or accessories, are punishable by a fine not exceeding \$2000, and imprisonment for not more than two years in the common jail, at the discretion of the court." In chapter 130, section 19, the term felony is not used, and the punishment provided for resurrectionists is imprisonment in the state prison not exceeding one year, or in a county jail for not more than two years, or a fine not exceeding \$2000. In chapter 22, section 10, "directors of work houses" are added to the list of those specified in section 3 of the original act, who "may surrender the dead bodies of those who are required to be buried at the public expense." Section 11 provides that such bodies shall not be given up "if the deceased person, during his last sickness, requested to be buried, or if, within twenty-four hours after his death, any person claiming to be kindred or a friend to the deceased person, and satisfying the proper board thereof, shall require to have the body buried;" whereas, 1830, 57, § 3, forbids the surrender "of such body if, within thirty-six hours from the time of its death, any one or more persons claiming to be kin, friend, or acquaintance to the deceased shall require to have said body inhumed." The requirement concerning the bond to be given by the anatomist before the surrender to him of a cadaver, which is contained in 1830, 57, § 3, appears as section 12 of chapter 22. Section 5 of the original act is dropped; and section 4 constitutes section 9, chapter 22, of the revision of 1835. By the act of 1845, chapter 242, former acts are simplified, amended, and improved. Section 1 provides that the overseers of the poor of any town and the mayor and aldermen of any city, in the commonwealth, "shall, upon request, give permission to any regular physician, duly qualified according to law, to take the dead bodies of such persons as are required to be buried at the public expense within their respective towns or cities;" and also makes "the duty of all persons having charge of any poor-house, work-house, or house of industry, in which any person required to be buried at the public expense shall die, immediately to give notice thereof to the overseers of the poor of the town or the mayor and aldermen of the city, . . . and the dead body of such person shall not, except in cases of necessity, be buried, nor shall the same be dissected or mutilated until such notice shall have been given and the permission therefor granted." According to section 2, "No such body shall in any case be surrendered if the deceased

person, during his last sickness, of his own accord, requested to be buried." Excepting the repeal of sections 10 and 11 of the Revised Statutes, the act of 1845 contains no other noteworthy new provision.

Chapter 323, Laws of Massachusetts, 1855, section 1, confers the powers and duties of overseers of the poor, as defined in chapter 242, Laws of 1845, upon "overseers and superintendents of state almshouses." Section 2 contains provisions new to the statute book. It reads: "Whoever buys, sells, or has in his possession, for the purpose of buying, or selling, or trafficking in, the dead body of any human being shall be punished by fine of not less than fifty nor exceeding five hundred dollars, or by imprisonment in the jail not less than three months nor exceeding three years." The duty of giving immediate notice to the proper authorities of the death of friendless persons in the institutions under their control, devolved by the act of 1845 upon the directors of houses of industry, etc., etc., is also, by the act of March 28, 1857, laid upon the board of directors of public institutions," of Boston.

So far as the writer has been able to learn, the Massachusetts legislature has enacted nothing of interest concerning anatomical science since 1857.

We have already noticed the provisions of the act of 1784 concerning the dissection of dead duelists. The act of 1784 was repealed March 15, 1805, when the following was enacted: . . . "Justices of said court, before whom the conviction shall, in cases of murder committed in a duel, and in other cases may, at their discretion, further sentence and order the body of such convict to be dissected and anatomized."

In chapter 125, section 2, page 716, Revised Statutes, 1835, we find no mention of "murder committed in a duel;" but we do find that "in every case of a conviction of the crime of murder the court may, in their discretion, order the convict to be dissected, and the sheriff shall deliver the dead body of such convict to a professor of anatomy and surgery in some college or public seminary, if requested; otherwise it shall be delivered to any surgeon who may be attending to receive it, and who will engage for the dissection thereof." The last revision of the Massachusetts statutes contains the above provision for the dissection of a dead murderer's body, practically unchanged, excepting this saving clause: "unless his friends desire it for interment."

The consideration of the working of the Massachusetts acts is deferred to a future article.

RECENT PROGRESS IN SURGERY.

BY H. H. A. BEACH, M. D.

ADMINISTRATION OF ANÆSTHETICS.

DR. ROBERT SAUNDBY, M. D., chloroformist to the Birmingham General Hospital,¹ admits that ether is to be generally preferred as an anæsthetic, and gives general direction in his article for the employment of that agent and chloroform. In common with other observers of anæsthesia under chloroform he states that "the pulse may be disregarded, as it gives no timely warning of approaching danger." That he has not made himself familiar with the full advantages of ether is evident from the following passages: "Fractures, herniæ, and other conditions in which complete muscular

¹ *Lancet*, November 20, 1880.

relaxation is required are cases in which, *ceteris paribus*, I should use chloroform." "Operations about the face can sometimes be performed only with difficulty, or not at all, while ether is being administered; in these chloroform must be employed." "The ether must be given almost continuously throughout the operation." Dr. Saundby has probably administered ether with the same care that he would devote to chloroform anæsthesia, and has not pushed the narcotism to complete anæsthesia; otherwise the *continuous giving of ether throughout the operation* would not be necessary. With a patient *well etherized*, the upper jaw may be removed without difficulty or the patient being conscious of suffering during the intervals when the ether is unnecessary.

COLLES'S FRACTURE OF THE RADIUS.

Dr. Henry O'Neill, of the Belfast Royal Hospital, published in the *Dublin Journal* for June, 1880, a paper on this subject, adopting the views of Dr. R. W. Smith as to the probability of impaction, and advocating the treatment proposed by Dr. Gordon with the use of his splint. Dr. O'Neill believes that "the fracture is usually caused by falling on the palm of the hand, with the wrist violently extended; the anterior common ligaments and flexor tendons, being forcibly stretched, act on the anterior border of the carpal surface of the radius at right angles to its long axis, forcing it backwards, so that the radius breaks almost transversely, or with a variable degree of obliquity from before backwards and upwards." He also admits that impaction occurs when the end of the radius is broken by a fall on the back of the wrist.

In his experiments upon the dead subject, Dr. O'Neill has been unable to produce impaction, and in support of his position quotes Smith (year 1850) as follows: "Until the result of the examination of recent specimens can be adduced in support of the theory of impaction, I shall be inclined to believe that the impaction is only apparent, and that the compact tissue of the shaft is not found enveloped in bone from its having penetrated the lower fragment at the time of the occurrence of the injury, but because it becomes subsequently incased in osseous matter during the process by which the bony union of the fracture is accomplished." Fifteen years after the above was written Mr. Callender published the notes of three cases where this fracture was dissected in the bodies of persons who had died of other injuries a few hours after the accident, and found to be impacted.¹ Dr. Cameron furnishes another case where the impaction was undoubted.² These cases are on the side of Diday and Voillemier (in favor of impaction), and those of Mr. Callender are held by Mr. T. Holmes³ as strong evidence in opposition to the views of Dr. O'Neill. Mr. Holmes considers that the Callender cases have been quietly ignored by Dr. O'Neill, though they answer the challenge repeated by Dr. O'Neill in Professor Smith's words. Mr. Holmes believes in impaction, and the necessity for its dislodgment to secure satisfactory results; that the great "essential is to restore the proper concavity of the front surface of the lower portion of the radius; and, so far as Gordon's splint insures this end, it is of value. But accurate reduction necessarily involves the restoration of the natural shape of the bone, and it is difficult to see

what there is to displace the lower end again when once it has been reduced and is kept quiet." "The injury may be very successfully treated by back and front splints."

TRANSVERSE FRACTURE OF THE PATELLA.

Mr. W. I. Wheeler publishes an article in the *British Medical Journal* for September 25, 1880, describing a special apparatus for the treatment of this lesion, and a report of cases where bony union had resulted. Professor Macalister, of Trinity College, Dublin, macerated one specimen, cut the bone longitudinally, and "found it bony throughout." Mr. Butcher and Mr. Tufnell have used the fracture-box in their practice, and had satisfactory results. The advantages claimed for the appliance are as follows: (1.) It is suitable to any limb. (2.) Tilting of the fragments cannot occur, the traction being downwards and backwards. Should there be a slight tendency to such, the strap fastened to the two buttons on the adjusting pads will prevent it. (3.) The splint provides for the position of the limb. (4.) There is no pressure on the arterial supply of the patella. (5.) There is no risk to the life or limb of the patient (as may be by the hooks or stitching the fragments). (6.) It will produce perfect coaptation without injury to the soft parts, and without pain and irritation. (7.) It can make well-maintained traction on the upper as well as the lower fragment, if required. (8.) No fluid can separate the fragments. (9.) The patient cannot interfere when adjusted, as in the plaster and other methods. (10.) It has produced the best results, bony union. The paper is illustrated.

EXCISION OF THE KNEE-JOINT.⁴

Mr. T. Holmes has considered the practice of seven large hospitals for the five years ending in 1878 in the treatment of two hundred and forty-five cases where this joint was involved, and states that it may be taken as "a fair specimen of English hospital practice." The principles which govern the employment of the operation are given in detail, and the following conclusions are drawn:—

(1.) "Excision of the knee is one of the indispensable resources of surgery, and is useful in all three classes of cases, namely: in those where, otherwise, amputation would be indicated; in those where the expectant treatment might succeed, but is dubious; and in cases of vicious ankylosis."

(2.) "As a substitute for amputation it is indicated in early life, and in non-tuberculous subjects; in cases of limited caries of the bones, of degeneration of the synovial membrane, and in some conditions of necrosis of the articular surfaces; possibly, also, in abscess in the ends of the bones."

(3.) "As a substitute for the expectant treatment it seems to be justifiable, and is extensively used in cases where the patient's circumstances and the slow progress of the case render the surgeon hopeless or very doubtful of recovery with sound ankylosis."

(4.) "It is also frequently used and is very successful in cases of vicious or deformed ankylosis."

(5.) "Attempts have been made to limit the place of excision by opening the joint, and drainage, and by some other partial methods. These attempts have been fairly successful, especially in cases where the affection is rather of the synovial membrane than of

¹ St. Bartholomew's Hospital Report, page 281, 1865.

² Glasgow Medical Journal, March, 1878.

³ London Medical Record, October 15, 1880.

⁴ Medical Times and Gazette, page 201.

the bones, and they deserve more extensive trial than they seem as yet to have obtained."

(6.) "At the same time the mortality from excision of the knee seems of late years to have been so greatly diminished as to encourage the hope that the limit of age which it has been found necessary hitherto to observe may be extended, and it may be judged prudent to apply the operation to the treatment of the more chronic affections of later life, — such as chronic rheumatic arthritis, more extensively than has been done up to the present time."

Mr. Holmes has also considered the question of excision of the hip, in the same paper, from the study of two hundred and fifteen cases, and concludes that "the question between the relative value of the cure by spontaneous ankylosis and that obtained by excision is one of very great importance. My own opinion is strong that the limb after excision, however successful, — and I may say that I have had the opportunity of examining some very successful cases of my own many years after operation, — is very rarely indeed as useful as it is even after the average cure by ankylosis." "It ought to be very rarely indeed required, if the disease were treated properly at its commencement. In cases seen at an advanced stage of the disease, it is chiefly when sequestra exist that the operation is *necessary*, though it may be *advisable* as a means of shortening the treatment in other cases also, when the patient cannot obtain the prolonged surgical care which is essential to natural recovery." "In vicious ankylosis, of course, the milder measures of division of the neck or shaft of the bone, introduced into practice by Mr. Adams and Mr. Gant, have proved so successful as to supersede the need for excision."

INTRODUCTION OF TRACHEAL TUBES BY THE MOUTH INSTEAD OF BY TRACHEOTOMY.

Mr. W. MacEwen, of Glasgow, has adopted this treatment in four cases, all adults, and describes his experiences in the *British Medical Journal* for July 24th and 31st. Case I. For the Removal of Epithelioma from the Pharynx and Base of the Tongue. Tube inserted to prevent blood from entering the larynx, and for the administration of an anæsthetic. Case II. Oedema Glottidis. Case III. Acute Oedema Glottidis following Chronic Laryngeal Affection. Case IV. Epithelioma. Tube introduced and removed before the administration of the anæsthetic. Patient died. The appliance answered admirably in the other three cases. After a historical review of treatment requiring the introduction of respiratory instruments by the natural passages, he states that "the introduction of tracheal tubes would be more difficult than the passage of urethral catheters into normal urethræ; but they could be passed a great deal more easily than catheters in most cases of urethral stricture. Before passing tracheal instruments in the living, it would be well to practice on the 'subject,' as this helps to cultivate the touch. Given a quiet patient in health, the introduction of the tracheal tube will be found almost as easy for the operator as its passage post mortem. In the two cases of *oedema glottidis* which I have treated in this way, the introduction of the tubes was more easy than in the cases with healthy larynges. In the former, the parts were fixed, thrown further forward in the mouth, and much less sensitive, — all favoring the introduction of the tubes. The first insertion is for the patient the most

disagreeable; the subsequent ones being attended with comparatively few manifestations of uneasiness."

MODE OF INTRODUCING THE TUBES.

"If any hitch occurs at the level of the cords it might be overcome by asking the patient to take a deep inspiration, during which the instrument ought to be passed. The head ought to be thrown back during the insertion of the tubes."

ADVANTAGES OVER TRACHEOTOMY.

"Besides the superiority which the simple introduction of a tube into the trachea through the mouth has over a cutting operation, which, in itself, is not unattended with danger, the following points may be noted as advantages on the side of the former: The air, as it passes through the natural passages into the lungs, becomes warmed, moistened, and filtered. When a wound is made into the trachea through the neck, and a short tube is inserted, the cold, dry, unfiltered air gets access to the lungs, and often produces fatal congestions. Every surgeon knows how difficult it is, even in a hospital, to maintain for days continuously an uninterrupted supply of extraneous warmth and moisture, and how, now and again, in spite of the very best arrangements, a hitch occurs, during which cold, dry air gains access. The tubes introduced through the mouth do away with the necessity of supplying extraneous warmth and moisture. A tubular instrument passed through the mouth into the trachea will convey heated, moist air into the lungs, and to a considerable extent will filter it of its dust and organic particles." "Even a tube, with one end in the trachea and the other projecting from the mouth, will attain, a few minutes after insertion, the same heat as the human body, and as a consequence will temper the air as it passes into the lungs. After a short time its interior will be covered with moisture, which will offer an extended surface for adhesion of organic particles, and so help to filter, and at the same time moisten the air."

CASES IN WHICH THESE TUBES MIGHT BE USED.

"It will be observed that I do not particularize the kind of cases in which the tracheal tubes passed through the mouth may be used further than by stating that there are obvious reasons for preferring tracheotomy or laryngotomy when foreign bodies are in the windpipe; and, on the other hand, for preferring tubes through the mouth where there are effusions of blood or serum, or collections of pus, into or about the submucous laryngeal tissues, or when anything overhangs or threatens to occlude the laryngeal orifice. Again, it may be asked whether such instruments might not be of very considerable service in cutting short many spasmodic affections of the cords and upper portions of the larynx, such as spasmodic croup, laryngismus stridulus, and in some cases of incarceration of the epiglottis, etc. Tubes inserted in some such cases might not only relieve the spasm, but also help to cure the disease by destroying the habit."

"Cases in which the disease, or at least the necessity for using the tubes, would be of short duration are the most suitable for this procedure. Again, where the person is too weak or objects to have tracheotomy performed, or where the practitioner does not care about performing it, the tubes passed through

the mouth might be used, even in the latter case, to gain time to allow an operating surgeon to be called."

"The tubes must necessarily be of various sizes, so as to suit the various larynges into which they may be introduced. At present, a tube of a better shape and form than that now in use, and one which will present other advantages, is being prepared for me." "It must be obvious that the time during which the tubes are retained must depend on the case. In some a few hours might be sufficient to dispel the oedema; in others, a much longer period is necessary."

"How would one recognize the presence of the instrument in the trachea? (1.) By finding the instrument pass over the first ring or two of the trachea. (2.) By finding that the air flows into the tube during inspiration and out during expiration, the opposite being the case if it be in the œsophagus. (3.) By the mucous expectoration being expelled from it. (4.) By the negative signs that it is not in the œsophagus or stomach; that is, blowing of the stomach through the tube, etc." "Before introducing the tubes an examination by the laryngoscope ought to be made to ascertain the precise state of the parts."

Deductions: "(1.) Tubes may be passed through the mouth into the trachea not only in chronic but also in acute affections, such as oedema glottidis. (2.) They can be introduced without placing the patient under an anæsthetic. (3.) The respirations can be perfectly carried on through them. (4.) The expectoration can be expelled through them. (5.) Deglutition can be carried on during the time the tube is in the trachea. (6.) Though the patient at first suffers from a painful sensation, yet this passes off, and the parts soon become tolerant of the presence of the tube. (7.) The patient can sleep with the tube *in situ*. (8.) The tubes in these cases, at least, were harmless. (9.) The ultimate results were rapid, complete, and satisfactory. (10.) Such tubes may be introduced in operations on the face and mouth, in order to prevent blood from gaining access to the trachea, and for the purpose of administering the anæsthetic; and they answer this purpose admirably."

Hospital Practice and Clinical Memoranda.

STRANGULATED INGUINAL HERNIA; OPERATION; INTESTINAL FISTULA AND DEATH.

BY D. B. MYSHRALL, M. D. HARV., MALDEN.

ABOUT noon on June 23, 1876, I was summoned into the country, some six miles from Calais, Maine, where I was then engaged in practice, to see a patient who was said to be suffering from "rupture." Upon my arrival, I found such to be the case; and from the patient, a man of sixty, I received the following history:—

The rupture first appeared about fifteen years previous, whilst he was engaged in performing some heavy labor; and upon that occasion, as also several times subsequently, he returned the intestine with little or no difficulty. He has never worn a truss. Three days previous to my visit, while engaged in chopping wood, he felt "the lump come down," and, upon attempting to return it, found, much to his surprise, that he was unable to do so.

Throughout the following day he had considerable "pain in the bowels," and everything he ate distressed

him. That evening he took a dose of salts; and the following morning, the pain having increased, vomiting having set in, and no operation from the bowels having taken place, he became alarmed, and called in a physician in the vicinity, who explained to him the nature of his trouble, made an unsuccessful attempt at reduction, without anæsthesia, and then advised him to send to the city for surgical aid.

Examination revealed a tense and exceedingly painful scrotal tumor, extending up into the inguinal canal on the right side. Patient's general condition pointed strongly toward strangulation of the bowel. He was in severe pain, and consequently restless; expression anxious, pulse quick and feeble, tongue dry and brown, and abdomen swollen and tender to the touch. His attendants laid particular stress upon the odor of the substance he vomited, stating that it smelt worse than an ordinary operation from the bowels.

Dr. W. T. Black, of St. Stephen, N. B., who saw the case in consultation, agreed with me as to the presence of strangulation, and that the patient's only chance lay in immediate operation, should renewed attempts at taxis prove ineffectual.

The patient having been thoroughly etherized, taxis, with the body in every position, was tried, without success. The swelling was then punctured with an aspirator needle, and two drachms of bloody serum withdrawn, but without any decrease in the size of the tumor. I then proceeded to cut down upon the hernia, and, division of the various layers having been effected, reached the sac with the loss of scarcely a drop of blood. It being impossible to reduce the hernia within the sac, the latter was opened, and the stricture found in the neck of the sac above the internal ring; the sac itself was attached, and proved irreducible.

The bowel, upon examination, showed evident signs of strangulation, in its dark claret color and dull appearance; but both Dr. Black and myself thought we saw signs of returning circulation. The wound was closed with silk sutures, and compress and bandage applied. Opium and stimulants to be given *pro re nata*.

June 24th. Six P. M. After operation last evening the patient was quite comfortable until ten A. M. to-day when he had a movement from the bowels, attended with severe pain. Two one-grain opium pills having been given, he became quiet about one P. M., and has remained so since. No vomiting since operation.

June 26th. All symptoms favorable. Wound presents appearances of immediate union. Two stitches removed.

June 28th. Patient had a small operation to-day, accompanied with only slight pain. Sleeps well. Pulse 90; temperature 99° F. Continue pill opii.

July 1st. Found patient much changed for the worse since last visit. Wound open and discharging terribly offensive pus. He complains of severe abdominal pains, and has vomited several times during the night. Pulse 98; temperature 100.5° F. Ordered to continue opium *pro re nata*. Diet, milk and lime water. Wound to be kept thoroughly clean, and carbolic-acid dressing applied.

July 2d. Since last evening fecal matter has been constantly pouring from wound. Patient slightly delirious. Pulse 104; temperature 100.5° F. Ordered whisky punch and sulphate of quinine, two grains, three times per day.

July 4th. To-day found patient violently delirious, requiring constant attention from at least two attendants. Fæcal matter, about the consistence of Indian porridge, flows from the wound incessantly, and patient's groin and thigh are much excoriated, notwithstanding all efforts have been made to keep the parts clean.

July 7th. Delirium unabated, opium having been given in very large doses without producing sleep; in its place was given chloral hydrate and bromide of potassium, of each fifteen grains, to be repeated every four hours, till sleep is produced.

July 9th. Some improvement in patient's condition to-day. Delirium somewhat less. Chloral mixture to be given sufficiently often to insure quietness. Wound still pouring out fæcal matter.

From July 9th until the 22d, patient improved slowly, but the wound remained in the same condition. Upon the latter date it was first noticed that the fæcal discharge was somewhat less than usual.

July 24th. Fæcal discharge has lessened very much since last report.

July 25th. The discharge from wound in groin has decreased from quarts to ounces.

July 27th. To-day patient had a natural operation from the bowels, — the first since the 28th ultimo.

August 6th. Since last report patient has constantly improved, and has had daily evacuation from the bowels. The discharge of fæcal matter from the wound has entirely ceased.

August 10th. Wound in groin entirely healed. Patient discharged well.

August 26th. To-day was requested to visit Mr. M. again. I found that since last record not only had he been up and around daily, but he had even attempted to perform some light labor, contrary to express orders. Yesterday morning, when getting up, he found great difficulty in "handling his legs," on account of severe pain extending down the inner surface of the right thigh. Examination revealed extreme tenderness in that locality, extending upwards to site of old wound in groin, and inwards to symphysis pubis. Patient stated that he had suffered from "cold chills" all day yesterday. To remain in bed, and have thigh enveloped in a flaxseed-meal poultice.

September 1st. Since last visit patient has had several distinct chills. Fluctuation along inner side of thigh quite distinct, but the patient will not allow an opening to be made.

September 6th. To-day pain had become so severe and constitutional irritation so great that he could stand it no longer. About six ounces of pus was evacuated, and the opening found to communicate with the old wound in groin.

September 9th. Since last visit wound in groin has partially reopened, and a small quantity of fæcal matter discharged at different times. Regular operations of the bowels still take place about every other day. Wound in thigh is syringed daily with a solution of carbolic acid. Pain and tenderness over pubic region daily getting greater. Pulse 98; temperature 100.5° F.

September 12th. Wound in groin thoroughly opened, and fæcal matter pouring out, as of old. Pain along inner surface of left thigh complained of.

November 8th. Since last report, patient has slowly but surely lost ground. Wound pours forth fæcal discharge incessantly, although a natural operation with a normal-looking stool takes place about every third

day. Despite every precaution, it is impossible to keep the clothing and bed-linen clean; and, taking the appearances of the wound and clothing and the constant fæcal odor into consideration, our patient's condition has become a pitiable one.

November 10th. Was called to-day particularly on account of agonizing pain, beginning in pubic region, and extending over to left groin and down inner side of left thigh. No fluctuation could, however, be detected. Ordered sulphate of morphia, *pro re natâ*.

From this date until December 7th, when death relieved his terrible sufferings, our patient's case presented no new clinical facts; he gradually became weaker, and death seemed to be caused purely by exhaustion. No post-mortem examination was allowed.

After an extensive search through the files of all the prominent American and many foreign journals, I have been unable to find reported a case of stercoraceous abscess at all resembling this one in its clinical peculiarities.

En résumé, we find a history extending from time of strangulation until death, — one hundred and seventy-one days. Upon June 28th, the fifth day after reduction of the gut, Mr. M. had his second natural evacuation; but from then until July 27th, a period of twenty-nine days, all excreta from the bowels came out at the wound in the groin. From July 22d, at which period the fæcal discharge commenced to lessen, until August 10th, the patient's improvement seemed wonderfully rapid. Indeed, the manner in which he gained in flesh and strength has always been to me a clinical mystery; but certain it is that when I left the case, August 10th, I considered him perfectly recovered. Indeed the original draught of this report was made about August 20, 1876, to be given to the profession as A Complete Recovery. The second attack, as I have always styled it, was, no doubt, brought on by the patient's own imprudence in attempting to perform manual labor; and, from its commencement until death, its course was one of constant and gradual failure.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

G. W. SWAN, M. D., SECRETARY.

JANUARY 10, 1880. DR. MINOT, in answer to a question as to the relative danger of plugging the vagina and plugging the os in cases of hæmorrhage from the unimpregnated uterus, replied that he thought there would not be much difference, if thoroughly done. The chief difficulty in the latter case would be to make the tampon stay in place.

DR. SINCLAIR said that he had seen the os plugged in such cases, but that he himself would do what he should consider equally efficient, namely, plug the vagina.

DR. ARNOLD remarked that to plug the os would be not only more difficult, but be apt to give rise to more pain and fever. He mentioned a case which gave him much annoyance, the difficulty being to make anything stay, whether cotton, or sponge, or other tents.

DR. HODGDON said that he could not conceive of the difference between the plugging of the vagina and the os so far as concerns regurgitation.

DR. SINCLAIR observed that the tampon in the vagina as a colpeurynter sets up an action on the part of the uterus to expel whatever is in the vagina or within its own cavity. This might result in a forcing of the fluid through the Fallopian tubes. He remarked that we need not go to the uterine cavity for the origin of hæmatocele.

DR. BOARDMAN stated that the subject as presented by Dr. Reynolds suggested three points for consideration, in comparison with the more common method of tamponing the vagina merely. In the first place, which is the most effective method? In either case the object desired is to bring about coagulation at the bleeding points, so that whether one or the other method be employed, the final result is the same, and they differ only in the greater time required to fill up the cervix with blood than with cotton.

Secondly, as to the rapidity of the entire operation, it may be asserted that whenever there is hæmorrhage sufficient to require its arrest by plugging or tamponing the os and cervix will always be found dilated, and to some extent dilatable, and, also, there will be a constant effort of nature to expel anything within the organ; so that, as a matter of experience, it will be found, in order to plug the cervix effectually, it will always be necessary at the same time to tampon the vagina.

Thirdly, as to danger attending the method of plugging the cervix, it may be said there is no difference in this respect between the two methods. If the anatomical and pathological conditions are such that regurgitation may ensue, either plugging the cervix or tamponing the vagina, or the two combined if they produce a complete obstruction to the escape of the blood externally, will possibly lead to the accident mentioned.

UTERINE FIBROID.

DR. MINOT exhibited the specimen, which he had removed from a woman thirty-five years old, a patient of Dr. Patrick Gavin. The woman had had two children, the younger being now four years old. During the last two years there had been profuse flowing, with great prostration; during the last two months the flowing had been less, though still enough to make the patient uncomfortable. The tumor, which was of the size of a walnut, lay just within the os, and was connected by a pretty broad pedicle with the posterior and left aspect of the uterine wall pretty high up. The tumor was seized with double hooks and drawn down, and the pedicle was divided by strong curved scissors, a short stump remaining. This, Dr. Minot stated, always, in his experience, shrinks up and disappears, giving no farther trouble. No application of any kind was made, and no hæmorrhage whatever ensued upon the operation. Dr. Minot called attention to the circumstance that when the tumor in its downward course reached the mouth of the womb the hæmorrhage diminished, which was by no means usually the case.

DR. SINCLAIR mentioned a case of just the opposite character to that reported by Dr. Minot, where the hæmorrhage became profuse just as the tumor made its appearance at the mouth of the cervix.

DR. WELLINGTON asked whether, in case of considerable uterine hæmorrhage in a woman not pregnant, and with no appearance of a polypus, it were advisable to dilate a closed os for examination, espe-

cially if the hæmorrhage has meantime diminished, and is prevented from becoming excessive by the use of a colpeurynter.

DR. MINOT (to Dr. Wellington's question) replied that it would depend upon the amount of hæmorrhage, and asked what internal treatment, if any, had been employed since the flow began to diminish.

DR. WELLINGTON said that there had been but little internal treatment except ergot and iron.

DR. MINOT stated that ergot combined with iron had given most satisfactory results in his experience in hæmorrhage from uterine fibroid. He had several patients now under observation with large uterine fibroids, in which the hæmorrhage has been entirely controlled in this way, and the menstruation has become normal in amount. One of these patients had enormous losses of blood, and became entirely blanched. She has a very large tumor, which cannot be reached, and the os is closed. Thirty to sixty drops of the fluid extract of ergot combined with reduced iron, three times daily, have controlled the flow. Another patient, matron of a large charitable establishment, had profuse hæmorrhage, and was treated with perfect success by the same remedies. In another case, that of a lady who had always flowed excessively, there was a large fibroid external to the uterine cavity; the same treatment was adopted, with like result. In another, the wife of a coachman, the tumor, which had existed for more than two years, gave rise to profuse hæmorrhage at the times of the catamenia and a constant flow in the intervals. These same remedies stopped the constant oozing and brought about a normal menstruation. The effect, in fine, has been almost as uniform as it has been remarkable, and no trouble has ever arisen from the free use of the ergot. In a patient in the hospital, who had a very large uterine fibroid filling the pelvis, the hæmorrhage was very great, and was not so effectually controlled by the remedies cited as in some other cases. She died, after some years' illness, from chronic peritoneal inflammation and exhaustion. The uterine hæmorrhage became quite moderate, but there was considerable hæmorrhage from the rectum, which could not be controlled so readily. She took about a drachm of the fluid extract of ergot daily for about a year, without the slightest bad effect from the ergot, so far as could be ascertained. In one of the other cases spoken of above, the patient took thirty to forty drops for a long time with impunity. Dr. Minot said that he was satisfied that it has no injurious effects, not even causing constipation of the bowels.

DR. SINCLAIR stated that he was now giving ergot effectually in a case of uterine fibroid. Twice he had seen abscesses in patients taking the remedy.

DR. WELLINGTON remarked that half a teaspoonful of the fluid extract, together with the tincture of iron, three times a day, did not seem in his case to have had any such effect as that described by Dr. Minot.

DR. MINOT stated that one should be sure of the quality of the drug, and give large doses. He would not say that he had not met with failures, but he could not remember many. He suggested in Dr. Wellington's case dilatation with a tent and exploration with the finger.

DR. LYMAN remarked that he had reported cases here and in the Transactions of the American Gynecological Society showing the great value of dilatation. There is benefit, no doubt, in some cases from ergot and iron, but there were many instances in which these did

no good, though long persevered in. In such cases he had never failed in giving relief by dilatation of the internal os. It is the proper preliminary also for the use of ergot in reducing the size of large fibroids, in which it was of quite as much value as in staying the hæmorrhage. In a case in the hospital the fibroid was so large that it could not be removed; dilatation arrested the continued metrorrhagia, and there has been no recurrence, while the fibroid has become much reduced in size. In this particular case, after the dilatation there were inflammatory symptoms, but nothing serious resulted. Dr. Lyman said he was convinced that dilatation was not employed so much as it should be. The trouble is not at the external but the internal os. In some instances he has reduced the hæmorrhage by a simple rapid dilatation, where the patients would not submit to the tent. Nowadays he should never think of using internal remedies until after dilatation.

Dr. MINOT stated that in cases where he had used ergot alone the result had been less satisfactory.

Dr. LYMAN said that he had given ergot to one patient continuously for two years; forty to fifty drops for a year in many cases. He did not look upon ergot as having any poisonous property, or as endangering gangrene. In some cases he would use the steel dilator, in others laminaria tents. Goodell and Elwood Smith constantly employ the procedure in cases of hæmorrhage. Any ordinary force would not tear the uterus, but of course the proceeding must be properly conducted.

Dr. SINCLAIR remarked that in dilatation we must tire out the uterine fibres so that they will not contract again, in order to get real benefit from the proceeding. This he would insist on as the key-note of the procedure.

Dr. LYMAN concurred that this was an important point (tire out the fibres). The process of stretching changes the innervation. There is a physiological point connected with the inner cervix which is not understood and has never been elucidated. In fact, there is no thoroughly good exhaustive treatise upon the minute anatomy of this portion of the uterus.

Dr. Lyman, in answer to a question upon the use of ergotin, stated that two or three drops well rubbed up with twenty to twenty-five of water can be used as a hypodermic injection; and is so used for a variety of purposes, as hæmoptysis, etc.

Dr. RICHARDSON stated that he had used ergotin subcutaneously five years ago in the Lying-In Hospital, and had got some very good abscesses from it. In London the same results have been reported, and the solution there is mixed with glycerine. In one or two cases he had seen uterine contractions from its use, as in the case of ergot, but no better. He stated that one sixth of a grain of ergotin is said to be equal to a drachm of the fluid extract.

Dr. C. E. STEDMAN said that he had always used the fluid extract, only taking care to make the injection deep at right angles, and not hypodermically.

— A patient with a supposed scalp wound recently applied for treatment at Guy's Hospital. He was seen by a nurse, who dressed his wound and sent him home without his being seen by the house surgeon or dresser. His wound proved to be a fracture of the skull, and ended fatally.

— An ovation in honor of Hyrtl's seventieth birthday was celebrated in Vienna on the 6th of December.

Recent Literature.

The Descriptive Atlas of Anatomy. A Representation of the Anatomy of the Human Body in Ninety-Two Royal Octavo Plates, containing Five Hundred and Fifty Figures. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

If it were not for a very remarkable point in this work, our criticism of it would be brief. We should say that the conception of the plates is excellent, but the execution rather poor, and in parts very bad. The only text in the book is the preface, in which we are told that, "in order to supply the wants of the student, *The Descriptive Atlas of Anatomy* has been prepared, with a view to correctness, clearness, simplicity, and completeness. The parts have been copiously named and described *in situ*, and THE ARTERIES AND VEINS HAVE BEEN COLORED."

"Every figure has been carefully revised by a Metropolitan Hospital surgeon and a successful teacher of anatomy in one of the chief London medical schools."

No name except those of the publishers appears. The remarkable point to which we have referred is this: this collection is simply a reproduction, without acknowledgment, of almost the whole of Dr. C. Heitzmann's *Die descriptive und topographische Anatomie des Menschen*, published by Braumüller, of Vienna, where the first part appeared in 1871, and the last in 1875. Some of the figures have been slightly modified, English names have here and there been put in the place of Latin ones, and, as is set forth in capitals, the arteries and the veins have been colored. We do not believe that there are ten figures among these five hundred and fifty that are not to be found in Heitzmann's atlas. It is also curious to observe that, while Heitzmann conscientiously acknowledges several figures from other sources, this ceremony is in the work before us occasionally complied with in the case of these borrowed figures, and occasionally disregarded. We have failed to find Dr. Heitzmann's name anywhere. We do not wonder that the "Metropolitan Hospital surgeon and a successful teacher of anatomy" should prefer to remain unknown; but if anything could surprise us on the part of the authors of this performance, it would be the coolness of the announcement at the foot of the title-page, "All rights reserved." It would have been better to have reserved the wrongs. T. D.

How Persons threatened or afflicted with Bright's Disease ought to Live. By JOSEPH F. EDWARDS, M. D. Philadelphia: Presley Blakiston. 1881.

A small book of a large and increasing class provided for the laity, it is divided into four parts, of which I. is devoted to general remarks, in the course of which the writer thinks he shows it to be a fact beyond dispute that "Bright's disease has become much more frequent of late years, and is steadily and rapidly on the increase;" II. treats of the functions of the kidneys and their derangements; III. defines Bright's disease as hastily as possible, and assures the reader that a good physician is a great gift bestowed upon man by an all-wise and benevolent God; and IV. gives rules of life, which are sensible and thorough enough, and would certainly keep any one guided by them out of mischief. The author shows but little quarter to alco-

hol and tobacco, and to a certain extent properly so; but we do not believe anything is to be gained by exaggerating the evil effects of these agents. Alcohol produces disease of the kidney as it produces many kinds of want and misery; it is no more an immediate cause of Bright's disease than fret and worry are. In regard to tobacco, "the twin brother of alcohol," as he calls it, the writer's remarks would have more weight with the reader if more consistent.

On page 77 we find that "to realize the fact that tobacco smoke must be injurious you have only to recall those instances among your acquaintances where persons unaccustomed to tobacco have been made sick even unto vomiting by its use in their presence, and to remember that the large majority of smokers have to be initiated into the art of smoking through a series of headaches and sick stomachs." On page 84, in the course of some remarks recommending a glass of cold water, drank after sitting down to breakfast and immediately before eating, as an efficacious aperient, we find that "some people with delicate and sensitive stomachs will complain that this water will make them sick. If they persevere in its use for a few days it will not make them sick." What is sauce for the goose is sauce for the gander. The argument should not work one way with vile tobacco, and another way with pure water.

We do not mean that this little book is not up to the average of its class, but the query suggests itself whether the primer may not be overdone. The answer will probably be sought in the readiness of the public to purchase.

Atlas of Histology. By G. E. KLEIN, M. D., F. R. S., and E. NOBLE SMITH, L. R. C. P., M. R. C. S. Part XII. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1880.

The number before us is an uncommonly large and a very excellent one. The first chapter is devoted to the skin and its appendages; the second to the eyelids, conjunctiva, and lachrymal glands; and the four following to the minute anatomy of the eyeball. In the description of the rete Malpighii, Klein gives us the results of some of his recent studies in the minute anatomy of cells. We must be permitted a short quotation: "The nucleus of some of the cells of the deepest layer contains within a distinct but delicate membrane a honey-combed reticulum without any nucleolus. That of others does not possess any special limiting membrane, and includes a more or less dense convolution of fibrils, deeply staining in the different dyes. Then there are cells whose nucleus has still further advanced towards division; the nucleus is larger, does not possess any membrane, and its fibrils become arranged as a rosette; then they change into a star, monaster, and later into a double star, dyaster. Now the cell itself becomes divided into two, in a line separating the two stars of the dyaster. The daughter star changes into a convolution; this again changes into a nucleus, similar in size, shape, and appearance to the nucleus of the cells of the middle layer of the stratum Malpighii, being spherical, well defined by a distinct membrane, and including a honey-combed reticulum, with or without one or more thickenings, — nucleoli." We are glad to see that in a future chapter the changes of nuclei will be further discussed. Klein does not appear to be acquainted with Dr. J. Collins Warren's

discovery of the so-called fat canals, which was published in the JOURNAL April 19, 1877. This is the more surprising as Dr. Klein's knowledge of histological literature is extremely minute; but it must be remembered that Dr. Warren's discovery has never received the attention it deserves.

Knowing our author's interest in nerve terminations and in the cornea, we were prepared for a full description of that organ, in spite of the recent appearance of his long article in the *Quarterly Journal of Microscopical Science*. Klein finds that the nerves do not enter the corpuscles, but form net-works on their surface. He describes a series of very minute lateral branches given off by the nerves in the anterior epithelium. Each branch breaks up into the finest fibrils, which form an ultimate net-work between the cells, except in the most superficial and in the deepest layers.

The plates illustrating this number are as beautiful as usual. T. D.

Cutaneous and Venereal Memoranda. By HENRY G. PIFFARD, A. M., M. D., etc., and GEORGE HENRY FOX, A. M., M. D., etc. Second edition. New York: William Wood & Co., 27 Great Jones St. 1880.

This is a "vest-pocket" volume of 309 pages, prepared by the authors for students unable, during their pupillage, to procure voluminous works upon this special subject; to inculcate principles rather than to elaborate details; and to present facts in as compact a form as possible by avoiding all discussion of theoretical questions and omitting histological details. Most of the book is by Dr. Piffard; five chapters only being furnished by Dr. Fox. This edition varies from the first one merely in the correction of typographical errors, the amendment of the nomenclature, and the addition of a valuable practical formulary; so there is no occasion to modify the opinions expressed as to the first edition. The work is good of its kind, — the reputation of its authors would naturally vouch for that. Dr. Piffard still cherishes the views of the French school as to diathesis, but lays rather less stress upon them than formerly. The style is clear; there is quite an amount of valuable information condensed into a short space; the book is pretty well up with the times; the increasing use of the metric system in prescribing has led the authors to express the various formulæ both by the old and the new methods; the paper and typography are excellent, and there is a complete index.

The Compend of Anatomy. For Use in the Dissecting-Room, and in preparing for Examinations. By JOHN B. ROBERTS, A. M., M. D. Philadelphia: C. C. Roberts & Co. 1881.

We have often expressed plainly enough our disapproval of compendiums. They, no doubt, are convenient for the student, but we fear they do not promote scholarship.

We must say, however, that this little work of Dr. Roberts deserves a good deal of credit. It is very compact, but less meagre than one would imagine from its size. We are pleased with the arrangement in several respects, and look on it as one of the best of its kind.

Medical and Surgical Journal.

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THE NATIONAL BOARD OF HEALTH.

RUMORS come from Washington that the National Board of Health is to be abolished. We observe that the dispatch, purporting to announce this, appears only in one paper, and therefore trust that it is a false report.

But if the rumor be correct, and Congress should resort to this severe measure, we feel sure the act will only be the forerunner of another arrangement for the sanitary supervision of the country, and we hope that it will have less money left at its disposal, except under great emergencies. The circumstances, which existed at the time of the establishment of the board, happily have passed away. Memphis was decimated by yellow fever, which threatened, unless the strongest preventive measures were taken, to devastate the whole of the Mississippi Valley, and to bring about the horrible "shot-gun quarantine" and anarchy of a previous day. To avoid, if possible, this dire result, Congress and the nation alike called for a national board of health, armed with ample powers; and a very large sum of money was placed at its disposal. It is now said that these funds have been unwisely expended, and therefore that the board must be abolished.

We, on the contrary, claim that the board may point proudly to all that it has done, and reply that the money thus expended is comparatively insignificant, when compared with the amount of good done to the whole country.

Let us glance at a few of these benefits accruing to the Union. The board, with its powerful quarantine around Memphis, compelled the yellow fever to die there instead of spreading, as it undoubtedly would have done, if it had not been so restrained. Moreover, while thus shutting up Memphis, it has permitted, under the close inspection by its officers at places above and below that city upon the river, almost unrestricted commerce; trains running daily from New Orleans and St. Louis. That the services of the board were properly appreciated by railroad directors is proved by the fact that, on two of the main roads along the river bank, they were willing to pay for the services of the board's inspectors, if the board would simply order that a proper inspection of passengers should be made. They did this, of course, because by this method only could traveling be safely and easily carried on.

But this is not all. The board, having saved the valley from yellow fever, immediately turned its attention to Memphis, and the board's inspectors, with the aid of able sanitary experts, induced the citizens to undertake the thorough cleansing and sewerage of

their city, whereas previously every family had, as its own privy vault, only a deep hole dug in the cellar. As each privy, after years of use, became filled, earth was thrown over the festering mass, and a new hole was dug! At times, five or six of such places, all filled but the last, were found under a house! All this has been changed by the vigorous urging of the board, so that now Memphis, acting earnestly for itself, under the advice of the board, is one of the model cities of the Union in all sanitary arrangements. When we reflect upon these facts, namely, the crushing-out of the fever at Memphis; the restoration of that city to the influence of sanitary law; and finally to the enabling the commerce of the mighty river to go on without interruption, we feel that, even if all the money granted by Congress had been used for these purposes alone, it would have been well and nobly spent. But this is not all, for which due honor should be given to the board. Its scientific embassy to Havana, etc., in order to study the yellow fever in places, where it always exists, promises to produce a work of great value to all countries, which hold intercourse with those places. The establishment of various quarantine and inspecting stations during the summer, off New Orleans, at Hampton Roads, etc., should also redound to the honor of the board in the minds of all reflecting persons.

We are not, however, surprised at the rumor alluded to. We have observed with regret a difficulty growing up between the board and the Louisiana Board of Health, and perhaps between the sanitary organizations of the upper and lower parts of the Mississippi Valley. We allude to these facts not for the purpose of taking sides with either, nor for the purpose of deciding points of diagnosis between "yellow fever" and "rice fever." But we must say that we see in them no valid reason for the violent attacks upon the board, and especially upon the member of it, resident at New Orleans; who, knowing that an epidemic existed not far from New Orleans of a fever with "black vomit" as a prominent symptom, deemed the cases so important that quarantine was proposed. Was it wrong for the board to give public notice of the fact that a disease which bore such prominent symptoms, resembling yellow fever, did exist, and that it should be avoided?

Even supposing an error of diagnosis was made on that occasion, surely that is no reason for destroying the board. The board, we believe, is the natural outgrowth of that professional and public sentiment, which has brought into being state and local boards of health in various parts of the country, and which was never more prominent and active than at the present day. From the nature of things we *must* hereafter have a national sanitary authority, of some kind. The care of the public health is as important (to use the mildest expression) as the care of any other of the departments of the government. Everywhere, in civilized countries, we see this idea influencing the people and governments. No such thought *can* go backwards. Governments are groping, somewhat darkly, in order to get the most appropriate arrangements. The present National Board of Health is one of these attempts to

meet a great emergency, and to prepare for the long future. If, therefore, it should be abolished, — which we sincerely hope will not be done, — another *must inevitably arise*. Some have suggested that, perhaps, the hour has arrived when a department, of public health is a necessity. Such a department, from analogy, should have a secretary, with, as we think, a council of medical men, engineers, and citizens, among whom should be a lawyer, to aid him in emergencies. Such a secretary should be rather below than above the middle age, a sanitarian by profession, and not a simple politician. He should have wide views, — should be a wise man; above all, one immaculate in his honorable intention and acts, and with an intellect superior to common men. Like the judges of our courts, he should hold office during life, or until removed for good reasons and by legal measures. Such a person will inevitably arise, when demand is made for his presence.

AN ENGLISH REVIEWER'S IDEA OF AMERICANISMS.

THE *Medical Times and Gazette* of November 6th closes a review of an American book with references to two Americanisms. The first is the "use of the word *crowd* as a verb, in the sense of push or press." The reviewer asserts that it is not a verb, though occasionally used as such to express the movement of a crowd, and that it is an extension of its use not found in any good author to speak of crowding the os uteri in a given direction with a spatula. The second is the word *sag*, of which he says: "We should like to know what its precise meaning is, and what advantage it has over words which are a recognized part of the English language." He then proceeds to say, "We suppose that as Americans have a country of their own and a government of their own they have a right to a language of their own; but while they use the language we have given them we wish they would use it properly."

As a nation we are not unaccustomed to similar rebukes, though they are sometimes expressed in a less disagreeable manner, as when the *Lancet* crowns its praise of Booth's Hamlet by saying that his pronunciation is free from Americanisms.

We usually with due humility allow Englishmen to rejoice in their supposed superiority in the use of our mutual tongue, but this reviewer is so arrogant, and speaks with such an air of authority, and withal with such ignorance of his own language and literature, that it may not be unprofitable, even in a medical journal, to discuss the matter for a moment.

Croude (Anglo-Saxon), to shove together, is found in Halliwell's Dictionary of Archaic and Provincial Words.

Crowd is given as a verb in every dictionary to which we have access. We will not quote American lexicographers, though we believe they are not entirely without authority in England; but in Richardson it is given not only as denoting the movement of a crowd, but with a derived meaning, "to thrust or press to-

gether;" and if the reviewer will cut the leaves of the second part of King Henry IV. he will find, —

"The time misorder'd doth, in common sense,
Crowd us and crush us to this monstrous form."

The use of the word simply in the sense of push is not common, but did not originate in America; for before Columbus sailed Chaucer wrote, —

"But in the same ship . . .
Hire and hire yonge sone and all hire gere
He sould put and crowde hire fro the lond."

But where the object acted upon is pushed into a confined space its use is common enough. Did no passing dray ever crowd the reviewer into a corner? Were the cervix uteri removed from its normal position and placed upon the table, one would not usually speak of crowding it in a given direction with a spatula; but when it moves only in the confined space of the vagina we believe it to be a perfectly legitimate use of the word.

Hosea Biglow was guilty of an Americanism when he wrote

— "there 's the old J. B.
A crowdin' you and me."

And possibly the use of the word in question is more common in America, but certainly it is not so far removed from correct usage as to merit the harsh language quoted.

Sag often spelled *sagg*, is found in every dictionary within our reach. Sheridan and Walker say it is not in use. Nearly all quote Shakespeare: —

"The mind I sway by and the heart I bear
Shall never *sag* with doubt nor shake with fear."

In Fuller's Worthies we find, "No hospital is tyed with better laws that it may not *sag* from the intention of the founder." (He did not refer to Guy's.) Archbishop Trench says, "To *sag*, a Shakespearean word, too good to lose, is alive almost everywhere in England except in our literary dialect; thus, a tired horse *saggs* his head, an ill-hung gate *saggs* on its hinges."

And so one might quote indefinitely, but surely no more is necessary to show that it is a "recognized part of the *English* language," and that our American author sinned in very good company.

After all, the language of educated people of the two countries is not very different, and it may interest the reviewer to know that the author whose Americanisms are so unmeaning to his ear was born and spent all his boyhood under the shadow of the British flag.

The true critic should be not only "indifferent" modest, but also moderately well informed.

MEDICAL NOTES.

— The meeting of the American Public Health Association took place last week, as announced, in New Orleans. A report of the papers and discussions will be given in our next number. Savannah was selected as the place of meeting in November, 1881. The following gentlemen were elected as officers for the ensuing year: president, Dr. Charles B. White, of New Orleans; first vice-president, Dr. R. C. Ked-

zie, of Lansing, Mich.; second vice-president, Dr. Henry F. Campbell, of Augusta, Ga.; secretary, Dr. Azel Ames, of Boston; treasurer, Dr. J. Berrien Lindsay, of Nashville; executive committee, Drs. D. C. Halliday, of New Orleans, E. M. Hunt, of New Jersey, George M. Steinberg, United States Army, E. S. Griffin, Wisconsin, J. G. Thomas, Savannah, Thomas F. Wood, North Carolina.

— At a meeting, December 9th, of the Sanitary Council of the Mississippi Valley, Dr. Kedzie, of Michigan, presiding, the States of Wisconsin, Kentucky, Iowa, Illinois, Minnesota, Michigan, Tennessee, and Missouri were represented by members of their boards of health.

After an address by the president on the necessity for a national board of health, the following resolution, offered by Drs. Thompson and Holland, of Kentucky, was adopted:—

Whereas experience has shown that measures of quarantine, under the sole direction of local and state boards of health, have not succeeded in protecting this valley from invasion of yellow fever; and

Whereas our people habitually view with distrust all announcements and sanitary acts of local boards, when those acts and announcements are of a character to affect the commercial interests of the locality directly concerned,

Resolved, That in our opinion the general government alone, acting through its constituted sanitary agents, should have direction and control of national and maritime quarantine.

— It seems that the inhabitants of Maine are very carefully protected from doctors. Among the legislative curiosities of the State is a law providing that no man shall practice medicine in Maine without having first practiced dissection; this is supplemented by a law providing that no bodies shall be dissected excepting those of executed criminals, and the door is finally locked by another law, which prohibits capital punishment.

— The Paris correspondent of the *Medical Press and Circular* says: "M. Bouchut has written to the *Gazette des Hôpitaux* on an anæsthetic he employs in the minor operations on children. The agent he uses is chloral, of which he administers one, two, three, and four grammes, according to the age; two grammes might be given without danger between three and five years. The dose, one, two, or three grammes, as the case may be, is given in four ounces of water, well sweetened, the whole being taken at once. In half an hour afterwards the child sleeps, and in an hour is perfectly insensible. This sleep lasts from three to six hours, and the child awakens as fresh as if after natural sleep. Once insensibility arrives, a great number of operations can be performed, such as extraction of teeth, destruction of erectile tumors by caustics, application of Vienna paste, opening of abscesses, thoracentesis, redressing of malformed limbs, ankylosis, etc., without any other inconvenience than that of leaving the children to sleep off the effects of the chloral. M. Bouchut asserts that he has administered this anæsthetic over ten thousand times

at the hospital (*Hôpital des Enfants malades*), and never had an accident; where the stomach rejects the chloral (which is very rare in children), a suppository with the required dose is given, and when it has melted sleep comes on. M. Bouchut, however, is not much in favor of this mode, as chloral, he has found, irritates the rectum after the third or fourth time. Although chloral is so well tolerated in the child, it is far from it in the adult. M. Bouchut never could succeed in giving a dose large enough to produce insensibility, as when four grammes were administered it was rejected at once. If the employment of this anæsthetic, says M. Bouchut, were attended with any danger, it should be abandoned, but, as I have already stated, there is none whatever."

— A somewhat remarkable case of fracture of the sacrum has recently occurred in Paris. A woman was brought into St. Lazare Hospital with a history of a fall upon her buttocks. A transverse line of depression could be felt from the back, corresponding to the middle of the sacrum, and from the rectum or vagina the line of fracture was readily felt, and the projection forward of the lower half of the sacrum verified. Pressure evoked crepitus. Reduction was easily effected, and displacement did not recur.

— The first operation in England of stretching, the facial nerve for spasm of the facial muscles was recently reported to the Clinical Society of London by Dr. Allen Sturge and Mr. Godlee. Two months after the operation the face was still paralyzed, but a month later the two sides of the face were nearly symmetrical when at rest, though there was still deficiency of movement in the muscles. The patient was, however, rapidly recovering.

— Volume I. of the Index Catalogue of the Library of the Surgeon-General's Office may be obtained from the Public Printer, Washington, D. C. Price, including postage, two dollars.

— We are asked to draw attention to an article in the *Lancet* of September 18th, on the use of olive oil as a remedy for gall-stones; but a correspondent in the succeeding number of the *Lancet* refers to the familiar remarks on the subject in Flint's Theory and Practice, where it is shown that the concretions passed after the free use of oil are not gall-stones.

— The Louisville *Medical News* copies this item from the *Medical Press and Circular*: At a recent meeting of the Northumberland and Durham Medical Society, Dr. Drummond, of Newcastle, demonstrated a new physical sign which is likely to be of great diagnostic importance in thoracic aneurism. When a patient suffering from aneurism of the thoracic aorta is made to draw a long breath (inspire deeply), and then close the mouth and expire slowly through the nose, short, puffing expiratory sounds are heard—synchronous with the systole of the heart—on auscultation of the trachea. Dr. Drummond believes this phenomenon to be due to the sudden systolic expansion of the sac expelling air from the chest. He has found it absent in cases of aortic valvular disease simulating aneurism, but has not yet thoroughly worked out the significance of the sign.

PROVIDENCE.

— The city of Providence has entered upon a new plan in the medical treatment of its out-door poor. Heretofore the city has been divided into three districts, each of which was furnished with a regular physician employed by the city. But in response to the clamors of some of the leading homœopaths, the following resolution was recently adopted by the city council:—

Resolved, That the overseer of the poor is hereby authorized to contract for homœopathic medicine and medical attendance required by the out-door poor of the city, for the year ensuing, provided the whole expense thereof shall not exceed the sum of two hundred dollars per annum, and that said sum be paid from the appropriation for the support of the poor.

In accordance with this resolution, the overseer of the poor has redistricted the city, dividing it into two sections, for each of which are employed one regular and one homœopathic physician. When a patient applies for medical aid he is to be given his choice of the methods of treatment, and a record will be kept of the number of patients sent to each physician. It will be interesting to compare this record with the claim made by the homœopaths that a third of all the business in the city is done by them. The new plan went into operation on the 1st of November.

— The board of trustees of the Rhode Island Hospital have in contemplation the establishment of a lying-in ward in that institution. At present there is in this city no provision whatever for the accommodation of women who are suddenly confined without a suitable place of shelter. Such cases are sent to the nearest police station or to the almshouse, and are frequently delivered by men or ignorant women before medical attendance can be obtained. There is also another class of cases to be met with, where suitable attendance and nursing during confinement cannot be had at home on account of poverty or other unfavorable social surroundings, or where the patient, being wholly dependent upon her own exertions for her support, is entirely without resources when unable to work. For these the hospital will form a place of refuge until they are able to care for themselves again. Undoubtedly many lives, both of mothers and children, will thus be saved, which would otherwise be sacrificed. The plan meets with the approval of the hospital staff and of the internes, who are desirous of the opportunity of perfecting themselves in this important department of medical practice.

— The series of lectures to women, which met with so much success in this city last winter, is to be repeated this season. The lectures will not be wholly of a medical and hygienic character this year, but will embrace scientific topics as well. The first lecture will be given December 7th by Mrs. Walton, of the Massachusetts Institute of Technology, upon Water. She will be followed by Professor Nunn, a pupil of Huxley's, upon Animal and Vegetable Life, illustrated by the microscope; Mrs. A. M. Diaz, who will give three Household Talks; Mrs. Churchill, upon Heredity, Nutrition, and Moral Education; Dr. Keller, who

lectured last winter; and other speakers whose names are not yet announced. Tickets will be furnished gratuitously to all women who cannot pay for them, and it is the purpose of the committee to secure as large an attendance as possible of persons of this class, as it is chiefly for their benefit that the lectures are established.

NEW YORK.

— The council of the National Association for the Protection of the Insane and the Prevention of Insanity met in one of the parlors of the Fifth Avenue Hotel on the afternoon of the 11th of November, and in the evening there was an open meeting of the association, to which cards of invitation had been issued to members of the profession and to a number of prominent ladies and gentlemen interested in matters of social reform. The president, Dr. H. B. Wilbur, made the opening address, and in it spoke of the causes which led to the formation of the society, whose organization was effected in July last. There were, he said, at least fifty thousand insane persons in the United States, and to show that this was a moderate estimate, stated that in the State of New York alone, with a population of five million, there were known to be ten thousand five hundred insane. Half of these fifty thousand insane were in state asylums or hospitals, about two thousand in incorporated or private institutions, about seven thousand in city or county asylums, and about sixteen thousand in county poor-houses or in the custody of friends.

Neglect and abuse were none too strong terms with which to characterize the manner in which the majority of these unfortunates were treated, and the system of imprisonment and harsh restraints to which the insane were subjected, together with the idleness enforced upon them, in this country, even under the management of many of the best institutions, continued to augment the number of incurables.

In Great Britain and other of the leading countries of Europe, however, the system of non-restraint and employment had produced such marvelous results that the whole treatment of the insane had been revolutionized in the last twenty years. Three asylums were under the strict supervision of national boards of commissioners of lunacy, who hold their positions for life, and were entirely independent of local asylum management, and whose inspections are of the most thorough kind. The Scotch asylums were the most perfect, consisting of rows of pleasant cottages instead of great stone prisons. All forms of restraint were abolished, and the inmates were employed and amused as if they were rational beings, so that in visiting such institutions it was difficult to realize that one was at a lunatic asylum. No windows were barred or doors locked, but the patients were watched quite closely by attendants, and very few escapes were attempted. These changes had proved the difference in many cases between restoration to health and confirmed insanity. In this country, on the other hand, money was lavished on appliances to lessen the labors of administration, and the ratio of recovery was constantly diminishing.

The Rev. Arthur Brooks spoke of the evils of the interference of politics in the management of charities and correction. A man's best work, he said, could not be expected in a position which he filled temporarily, so that political questions ought in reality never to enter into the appointment of officers in such institutions. Sooner or later the American people would be called upon to discuss how far the so-called parental functions of government should be allowed to interfere with education, charities, and correction. At present the inquiry was limited to the manner in which its duties under that function should be administered. The speaker held that politics should have nothing to do with charity, for the reason that it is impossible for politicians to bring to bear upon the subject proper individual motives, as no man could be expected to perfect himself in any special line of duty when his continuance in office was made to depend, not upon the manner in which he performed his work, but in the manner in which he served his party. To administer charities and correction properly was the hardest kind of work, requiring the wisest and best training, and politics was not the school in which to fit men for this. As regards the special subject under consideration, politics was more likely to make men insane than to cure insanity. In conclusion, he said that protection was one thing which pertained to the government, and the insane and the sane had the same right to it. The plain duty of the government was to investigate whether its citizens were all getting their rights.

Dr. George M. Beard made an extended address, in the course of which he gave a series of conclusions at which he had arrived as the result of careful personal observation of the best asylums of Europe during the past summer, which will appear in full in our next number.

Dr. E. C. Seguin read some of the strictures on Asylum Management in America (which have already been published), made by the German specialist, Von Stein, as a result of his visit to this country in 1879. He stated, it will be remembered, that he found our asylums extremely ill-managed, and the buildings, as a rule, totally unfitted for the purposes for which they were designed. The New York institutions on Ward's and Blackwell's islands in particular he pronounced as bad as they could be. One of the principal causes of this unsatisfactory state of affairs he ascribed to a lack of special education among American physicians.

Dr. Seguin called attention to Dr. Shaw's success in doing away with restraint at the King's County Asylum, an account of which was given in one of the late editorials of the *JOURNAL*.

Dr. J. W. Morton, who has recently returned from a visit to Europe, said he was gratified to be able, from personal observation, to verify all the statements that Dr. Beard had made. He had passed three days in one town of twelve thousand inhabitants in Belgium, half of whom had lunatics in their care (two being allotted to each family), and without special information he would have been unable to tell the insane from the sane. They were employed as nurses, messen-

gers, and in all sorts of industrial capacities, and were happy and contented. At Clermont, in France, he visited an institution, which he described as being composed of two farms of fifteen hundred acres each, with a central infirmary. Each farm was complete, having its own live stock, blacksmith shop, flour mill, etc.; the men being employed in agriculture, and the women in laundry work. Even the engineer and fireman of the laundry were insane women. All were happy and contented, laughing, joking, and discussing various subjects, and no attendants were visible. The institution had nine hundred patients, including all the phases of insanity, and all were of the lower classes, but not one was under any form of restraint.

Dr. Wilbur remarked that five years ago he visited England and Ireland, and inspected asylums containing an aggregate of twenty-five thousand patients, but in only a single instance did he see any form of restraint in use, though he always asked to be shown the refractory patients. The case alluded to was that of an epileptic with homicidal tendencies, in Ireland.

After some further discussion, of similar character, the meeting adjourned.

PHARMACEUTICAL NOTE.

DR. L. WOLFF, in the *American Journal of Pharmacy* for December, 1880, recommends the use of soluble compressed pellets for hypodermic medication.

For a morphia salt he recommends the use of the hydrochlorate with an equal amount of sodium chloride as a disintegrator. With this mixture the burning pain of the injection seems to be considerably diminished, and its absorption, probably due to the crystalloid nature of the salt and its superior diffusibility, seems to be promoted; the full effect of the injection taking place in from four to ten minutes.

The pellets of morphia, when used, should first be moistened with a drop of water from the filled syringe, then broken up with the blunt point of the syringe, all the water added, then sucked up and forced out of the syringe two or three times, until the solution is complete, which is usually in less than half a minute.

These pellets have the advantage of occupying the smallest possible space; that they can be dispensed in glass tubes of about an inch in length, closed at both ends by corks; that thus dispensed the sodium chloride, possessing antiseptic properties, will preserve them for an indefinite period. They can be easily made by any pharmacist having the necessary pill press, but should not be compressed with too much force (a tap with a light wooden mallet usually suffices), else they will not dissolve so rapidly.

There is no reason why this form for hypodermic remedies may not be extended to other remedial substances, and as salt is already suggested as an addition to mercuric bichloride for that purpose this might certainly be so prepared, as well as apomorphia, pilocarpia hydrochlorate, strychnia hydrochlorate, and other remedial agents subcutaneously administered in minute dose.

Miscellany.

CROUP AND DIPHTHERIA.

MR. EDITOR,—In a late number of this journal was a note from Dr. O. F. Ham, of North Barnstead, N. H., intimating that true croup and the croup which sometimes occurs in cases of diphtheria are essentially the same thing!

Now, for about nine years after I began practice I saw, on an average, one case of croup a year, without seeing any case of diphtheria. The cases were, as usual, mostly boys, between two and ten years of age. I never saw two cases in the same family of children; never knew of one child taking it from another. The local and constitutional symptoms in the two diseases are different; and if a child was saved from croup, which was rarely the case, he always more readily recovered strength than from diphtheria as ordinarily treated. Since I came in contact with diphtheria, nearly twenty years ago, I have occasionally seen cases of the true non-contagious croup, but many cases of diphtheria, and several of them with the croupy complication. I have not seen any cases of croup which were of true diphtheritic origin where there was any difficulty in making out their true nature, though I imagine such isolated cases may occur. But that true croup and true diphtheria are essentially the same disease it is impossible for me, with what I have seen, to believe. It has not happened to me to see a case which began as a croup which afterwards took on the characters of a diphtheria. All the cases with both croupy and diphtheritic symptoms have had the croupy symptoms succeed the diphtheritic, though in some of them these croupy symptoms were close behind the others. With only one exception, all the cases of croupy complications in diphtheria I have seen have happened in patients who, during the early periods of the disease, were attended by other physicians. Not a single case of croup in diphtheria has occurred in my practice where I have had an early opportunity to treat the case. By early directing my efforts to destroying of the poison, through constitutional means, I have hitherto succeeded in not only arresting the spread of the membranous exudation to the larynx or trachea, but in preventing the usual sequelæ of the disease.

During the last four years and a half I have found abundant cause to stand by the statements I made in this journal, June 8, 1876,—to *rely very fully on the free exhibition of the hyposulphite of soda in the early stage of diphtheria*. Indeed, I am now administering it oftener and in larger doses the first few hours, bringing in the stimulants and tonics afterwards. I am fully convinced of the power of the hyposulphite of soda over the poison of diphtheria, and also over the poison of scarlet fever. It will fail if not early and freely administered. If early and freely administered, these diseases are modified, and recovery is brought about earlier and surer than under any other treatment which I know.

E. CHENERY, M. D.

Boston, December 4, 1880.

EXAMINATION OF THE EYES OF THE CHILDREN OF HYDE PARK.

MR. EDITOR,—I send you a copy of the report of the examinations of the eyes of the school-children of Hyde Park.

Hyde Park is, I think, the first town in Massachusetts, and perhaps the first in the United States, to put the eyes of its school-children under the permanent supervision of a specialist.

If you should agree with me in thinking this matter worthy of notice in your columns, I beg you to state that the method which will probably be adopted for future examinations is that which was originally proposed by Dr. Derby, of this city, in an article which appeared some months ago in the JOURNAL, namely, that of having a periodical examination by the teachers, who can easily be taught to select those whose vision is beginning to fail, and to refer them to some one capable of giving the requisite advice, before any serious damage has been done. Yours very respectfully,

WM. T. DENNETT.

Boston, December 7, 1880.

OBITUARY.

THE news of the death of Dr. John Ellis Blake, in New York, on September 27th last, was received by as strong a feeling of regret by his colleagues and friends in this city as by those among whom he had passed the last two years of his life. He was born in Brattleboro', Vt., October 20, 1831, graduated at Harvard College in 1852, and three years later took his degree in the medical department of that university. A student of the late Dr. J. Mason Warren, he developed early in his career a strong taste for surgery. On the completion of his studies in this country he visited Europe, and spent two years in further study in Paris, which was at that time still the popular resort of American medical students. Being of a delicate constitution, he visited Algiers before returning to this country. Remaining in Boston until 1859, he eventually made Middletown, Conn., his home, and practiced there from 1859 to 1867. His career there was a most successful one, his services as a surgeon being particularly in demand, and he was often called in consultation from great distances. But his health was not equal to the severe ordeal to which it was subjected, and he was obliged to abandon this field of his labors and seek a rest in Europe. With restored strength he returned at the end of a year and a half to New York, where he was in active practice until the time of his death. He had long been a sufferer from chronic bronchitis and asthma, and at one time it was thought that symptoms of tubercle had developed. His final illness was a very brief one, and originated in a cold caught while on a visit to Newport early in September. On returning to New York on the 25th of this month he felt much improved in health, and his physicians, Dr. Hodges and Professor Thomas, could find nothing new in his condition to give rise to any uneasiness; but he was discovered dead in his room on the afternoon of the 27th. At the autopsy the heart was found slightly hypertrophied, with dilatation of the right side and slight fatty degeneration of the muscular fibre. The other organs were practically normal in condition. Death had apparently occurred from syncope following some sudden exertion on his part.

On account of his delicate health and frame, Dr. Blake had not been able to accomplish all that he undoubtedly would had he been the possessor of a robust constitution. His record is, however, that of a most excellent practitioner, and his professional skill was abundantly proved. On one notable occasion his

fertility of resource and his promptness to act were displayed under the most trying circumstances in a case of poisoning by aconite, rescuing his patient from imminent death.

The genial manners and polished culture of Dr. Blake, and a stock of general information which was wonderful in extent, combined to form a type of man, examples of which our profession should be proud to claim among its members. He was a Fellow of the New York Academy of Medicine, and a member of the New York Obstetrical and Pathological and County Medical Societies; also of the Middlesex County (Connecticut) and the Connecticut State Medical Societies. He was a frequent contributor to this journal and the New York journals. Recently he became much interested in the use of nitrous oxide gas as a remedy in certain cases of melancholia, insomnia, and other nervous disorders. He was married to a daughter of the late Samuel C. Gray, of this city, who, with three children, survives him. The following resolutions were passed by the New York Obstetrical Society:—

At a meeting of the New York Obstetrical Society, held October 19, 1880, the committee appointed to draught resolutions to the memory of the late Dr. John Ellis Blake offered through their chairman, Dr. Cleveland, the following:—

The Obstetrical Society bears with profound sorrow of the death of its esteemed Fellow, Dr. John Ellis Blake. For many years a valued member and co-laborer in the work of this society, he brought to its deliberations the rich experience of a careful observer and conscientious student. In Dr. Blake were conspicuous the sterling qualities of mind and heart which together make up the high-toned professional gentleman. Extremely sensitive and retiring in his disposition, he was none the less positive in his convictions, supporting them always by clear and concise reasoning. He was a man of broad and ripe scholarship, and in the literature of medicine there are many valuable contributions from his pen. There seemed nothing harsh in his nature. His criticisms of other men were always kindly. He saw the good side only. His devotion to his friends was steadfast and even enthusiastic. It was impossible for him to do a mean act. He has died with the esteem and respect of every one in the profession who was privileged to know him, and has left behind a memory that they will sincerely cherish.

(Signed) CLEMENT CLEVELAND, M. D.,

JAMES B. HUNTER, M. D.,

BENJAMIN F. DAWSON, M. D., Committee.

Copied from the minutes,

(Signed) FRANK P. FOSTER, M. D., Secretary.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 4, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	691	312	27.21	17.51	14.47	5.50	.87
Philadelphia.....	846,980	404	123	23.51	7.43	5.20	1.73	7.43
Brooklyn.....	566,689	251	93	32.27	17.93	23.90	5.18	—
Chicago.....	503,298	156	62	26.92	18.59	21.80	.64	1.92
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	158	52	22.15	8.23	8.23	5.06	2.53
Boston.....	363,938	204	67	28.92	27.45	18.63	1.47	1.96
Cincinnati.....	280,000	111	29	16.22	22.52	6.31	4.50	3.64
New Orleans.....	210,000	98	23	15.31	10.20	1.02	2.04	2.04
District of Columbia.....	180,000	67	21	25.37	17.90	13.43	—	5.97
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	48	13	20.83	25.00	6.25	12.50	—
Buffalo.....	155,159	52	16	17.31	7.69	11.54	1.91	1.91
Milwaukee.....	127,000	67	—	26.87	7.46	5.97	13.43	1.49
Providence.....	104,862	31	15	22.58	16.13	12.90	3.23	3.23
New Haven.....	63,000	30	9	30.00	6.67	26.67	—	—
Charleston.....	57,000	20	9	5.00	10.00	—	—	5.00
Nashville.....	43,543	16	5	18.75	6.25	6.25	—	6.25
Lowell.....	59,340	17	6	29.41	5.88	11.76	5.88	—
Worcester.....	58,040	21	12	9.52	4.76	—	4.76	—
Cambridge.....	52,860	26	10	15.38	30.77	—	—	3.85
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	18	5	11.11	16.67	5.56	—	—
Lynn.....	38,376	8	6	12.50	12.50	—	—	—
Springfield.....	33,536	18	4	5.56	11.11	—	5.56	—
Salem.....	27,347	14	5	7.14	28.57	—	7.14	—
New Bedford.....	27,268	16	6	12.50	6.25	6.25	—	—
Somerville.....	24,964	10	6	20.00	10.00	20.00	—	—
Holyoke.....	21,961	—	—	—	—	—	—	—
Chelsea.....	21,780	10	3	40.00	—	30.00	—	10.00
Taunton.....	21,145	9	—	—	44.44	—	—	—
Gloucester.....	19,288	10	5	10.00	50.00	10.00	—	—
Haverhill.....	18,478	8	1	12.50	—	12.50	—	—
Newton.....	16,994	9	—	33.33	22.22	33.33	—	—
Newburyport.....	13,470	6	0	—	—	—	—	—
Fitchburg.....	12,270	3	—	33.33	—	33.33	—	—
Eighteen Massachusetts towns.....	155,203	57	21	28.07	15.79	26.32	1.76	—

Deaths reported 2664 (no report from St. Louis); 939 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 653, lung diseases 412, consump-

tion 387, diphtheria and croup 339, scarlet fever 99, typhoid fever 64, diarrheal diseases 43, malarial fevers 35, small-pox 32, whooping-cough 17, measles 12, cerebro-spinal meningitis six, erysipelas six. From diarrheal diseases, New York 18, Boston

eight, Baltimore and New Orleans three, Brooklyn, Cincinnati, and District of Columbia two, Lowell, Cambridge, Lawrence, Lynn, and New Bedford one. From *malarial fevers*, New York 12, Brooklyn and New Orleans six, Chicago three, Baltimore, District of Columbia, and Milwaukee two, Buffalo and New Haven one. From *small-pox*, Philadelphia 32. From *whooping-cough*, New York five, Philadelphia four, Baltimore three, Chicago, Providence, Nashville, Lowell, and Worcester one. From *measles*, Boston six, New York three, Cambridge two, Milwaukee one. From *cerebro-spinal meningitis*, New York three, Baltimore, New Orleans, and Milwaukee one. From *erysipelas*, New York three, Philadelphia, Baltimore, and Pittsburgh one.

One hundred and forty-four cases of diphtheria, 75 of scarlet fever, six of measles, five of typhoid fever, and three of small-pox were reported in Brooklyn; small-pox one in Chicago; scarlet fever 58, diphtheria 13, in Milwaukee; diphtheria eight, scarlet fever seven, typhoid fever three, measles two, croup one, in Providence; scarlet fever seven, diphtheria four, in Cambridge; diphtheria 13, scarlet fever eight, in New Bedford; diphtheria five, typhoid fever two, scarlet fever one, in Somerville.

In 35 cities and towns of Massachusetts, with a population of 1,003,365 (population of the State 1,783,086), the total death-rate

for the week was 24.18, against 19.42 and 18.70 for the previous two weeks.

For the week ending November 13th, in 150 German cities and towns, with an estimated population of 7,791,088, the death-rate was 23.3. Deaths reported 3484; 1612 under five: pulmonary consumption 475, acute diseases of the respiratory organs 306, diphtheria and croup 167, scarlet fever 134, typhoid fever 62, whooping-cough 48, measles and *rötheln* 39, puerperal fever 23, typhus fever (Posen) two, small-pox (Königsberg) one. The death-rates ranged from 12.9 in Bremen to 30.8 in Darmstadt; Königsberg 31.6; Breslau 21.7; Munich 23.3; Dresden 23.6; Berlin 23.6; Leipzig 21.4; Hamburg 22.7; Hanover 18.5; Cologne 25.7; Frankfurt 13.2; Strasburg 27.7.

For the week ending November 20th, in the 20 English cities, the death-rate was 21.2. Deaths reported 3044: acute diseases of the respiratory organs 332, scarlet fever 138, measles 58, fever 55, whooping-cough 44, diarrhoea 43, diphtheria 19, small-pox (London) 10. The death-rates ranged from 16 in Birmingham and Hull to 25 in Liverpool; Sheffield and Leeds 19; London 21; Manchester 22; Bristol 24. In Edinburgh 22; Glasgow 19; Dublin 33.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	9 P. M.	9 P. M.	Mean.	7 A. M.	9 P. M.	9 P. M.	7 A. M.	9 P. M.	5 P. M.	7 A. M.	9 P. M.	9 P. M.	Duration.	Amount in Inches.
1880.																			
Nov. 28	30.161	29	33	19	71	69	89	76	W	N	NW	2	3	8	F	O	R	8.15	—
" 29	29.930	35	43	29	89	66	70	75	SW	W	SW	5	12	12	O	F	C	2.10	.06
" 30	30.301	29	38	23	73	45	66	61	N	NW	W	10	8	2	C	F	C	—	.00
Dec. 1	29.871	26	34	21	100	100	100	100	E	E	NW	8	24	14	S	S	S	20.00	.86 ²
" 2	29.879	23	30	19	87	54	66	66	W	NW	W	4	23	14	O	C	F	5.50	.05 ²
" 3	30.058	25	32	18	71	38	61	57	W	W	W	19	17	16	C	C	C	—	—
" 4	30.112	29	36	19	73	43	67	61	W	W	W	16	10	2	O	C	C	—	—
Week.	30.045	28	43	18					W	W	W							36.15	.97

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., snow; T., threatening.

² Melted snow.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 4, 1880, TO DECEMBER 10, 1880.

BROWN, J. M., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for three months' extension. S. O., 264, Department of the Missouri, December 2, 1880.

O'REILLY, R. M., captain and assistant surgeon. The extension of his leave of absence on account of sickness granted him August 16, 1880, still further extended six months on surgeon's certificate of disability. S. O. 259, A. G. O., December 7, 1880.

APPOINTMENT.—Dr. F. H. Davenport has been appointed assistant surgeon at the Free Hospital for Women.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting will be held on Monday next, December 20th, at eight o'clock, in the hall, 19 Boylston Place. Reader, Dr. Fitz. Subject, Diabetic Coma: Its Relation to Acetonæmia and Fat Embolism. A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Projet d'Organisation du Service de Santé de la Compagnie du Canal interocéanique de Panama. Lettre à M. le Comte Ferdinand de Lesseps. Par le Dr. Louis Campanyo. Paris: Librairie J. B. Baillière et Fils. 1880.

The Treatment of the Genito-Urinary Organs, the Use of Electricity, Damiana, etc. By John J. Caldwell, M. D. (Reprint.)

Higher Education of Medical Men, and its Influence on the Profession and the Public. By F. D. Lente, M. D., President of the Academy. New York: Charles L. Birmingham & Co. 1880.

Diseased Meat and its Consequences upon our Health and Happiness. By Noah Cressy, M. D., V. S.

Report of the Proceedings of the Boston Society of Medical Sciences. From September, 1875, to May, 1876. From September to November, 1877.

Diet for the Sick. Notes, Medical and Culinary. By J. W. Holland, M. D. Morton's Pocket Series No. 1. Louisville: John P. Morton & Co. 1880.

The Symptoms of Sexual Exhaustion (Sexual Neurasthenia). By George M. Beard, M. D.

"Gastrotomy or Gastrostomy." By L. L. Staton, M. D. (Reprint.)

Electricity in Medicine and Surgery, with Cases. By John J. Caldwell, M. D.

Food for the Invalid, the Convalescent, the Dyspeptic, and the Gouty. By J. Milner Fothergill, M. D., and Horatio C. Wood, M. D. New York: Macmillan & Co. 1880.

Transactions of the New Hampshire Medical Society for 1880.

Report of Examination of the Eyes of the Pupils in the Schools of Hyde Park. By Dr. William S. Dennett, of Boston. Published by authority of the School Committee. Hyde Park: Press of Norfolk County Gazette. 1880.

The Pathology and Treatment of Epulia. By N. Saen, M. D. Philadelphia: J. B. Lippincott & Co. 1880.

Photographic Illustrations of Cutaneous Syphilis. By George Henry Fox, M. D. Forty-Eight Plates from Life, colored by Hand. Parts I., II., and III. New York: E. B. Treat.

Report of the Commissioner of Education for the Year 1878. Washington: Government Printing Office. 1880.

Original Articles

THE ASYLUMS OF EUROPE.¹

BY GEORGE M. BEARD, A. M., M. D., NEW YORK.

WHILE visiting Europe during the past summer I had occasion to study the asylums and lunacy systems of Great Britain, France, and Germany.

My method of investigation was to visit certain representative institutions, especially those that are supposed to be most advanced in their ideas of the treatment of the insane, but not to confine myself to those exclusively; and to converse with physicians and superintendents who had made themselves acquainted with the methods of managing asylums in their respective countries.

In studying these institutions I did not usually avail myself of any letters of introduction, nor did I give any preliminary announcement of my coming, nor was the special object of my visit always stated until the visit was completed.

Offers of introduction from men of the highest influence in this department met me, but I had no occasion to accept them. I wished to see the asylums as they were in their actual and average daily life; in undress rather than in dress parade.

In some cases I saw the chiefs of the institutions, in others assistants or subordinates, in others still only the chief attendants.

In England and Scotland all classes of the insane are under governmental supervision, and they are visited regularly by the officials, without any warning, whether confined in public or in private asylums. I inspected, therefore, the places that represented all these different modes of caring for the insane, — public institutions, those partly public and partly private, and those entirely private. I also spent two days at the home of Wickham Barnes, Esq., who resides near London, and who for many years has had in his house an insane patient who is regularly called upon by the commissioners in lunacy. Places like Gheel and Hanwell, and the West Riding asylums have been so often described that it did not seem necessary to go to them.

Among the institutions I visited were Saughton Hall Asylum, near Edinburgh, under the charge of J. Batty Tuke, M. D.; the Royal Edinburgh Asylum, under charge of T. S. Clouston, M. D.; Faulborn Asylum, near Cambridge, under charge of Dr. G. M. Bacon; St. Ann's Asylum, Paris; Asylum for the Insane at Munich, under charge of Dr. Gudden; the asylums at Vienna and Prague; and, lastly, the institution that is now exciting so much attention in Germany, at Alt Scherbitz, near Leipsic. I visited ten places where the insane are cared for.

Everywhere I was treated with all the kindness and courtesy that I could ask; not only was I shown through the institutions thoroughly, but my cross-examinations in order to get at the modes of treatment, methods of restraint, and general management of the institutions, were always pleasantly responded to on the part of those with whom I was brought into relation.

Assistance of the most valuable character I derived from conversations with Dr. Crichton Browne, formerly of West Riding Asylum, and now one of the Chancellor's Visitors in Lunacy, and who is therefore situated

so as to know as well as any one possibly can the present condition and the prospects of the asylum systems of England. By his suggestion I obtained a copy of the lunacy laws prepared by Danby P. Fry, Esq., and containing all the statutes relating to Private Lunatics, Pauper Lunatics, Criminal Lunatics, Commissions of Lunacy, Public and Private Asylums, and the Commissioners of Lunacy.

From this volume and my conversations with Dr. Browne, I obtained points which were more or less new to me, and which have aided me in reaching the conclusions I am here presenting. These conclusions, stated as briefly as possible, are as follows:—

First. *In the methods of supervision and in the general care of insane in public and private asylums Great Britain has been easily first of all nations.* Next to Great Britain comes Germany, which, however, is so fast improving that she soon may be on an equality with Great Britain; of the three British Isles, Scotland on the whole takes the lead of England and Ireland; and it may be positively affirmed that on the average the insane in Scotch asylums are better treated than in any other country. Next to Germany comes France in order of merit.

This relative order of excellence is derived, I may say, not only from my own personal observation, but from extensive inquiries from men best fitted of all to know the true facts on this subject in their respective countries. (For some of these facts I am under especial obligations to Dr. Westphal, of Berlin, who takes much interest in the subject of the treatment of the insane, and by whose suggestions and invitation I visited the institution at Alt Scherbitz. Professor Ball, of Paris, also gave me information of value in reference to the French system and institutions. Dr. Arnold Pick, of Prague, a student of Westphal, interested himself very much in my inquiries. Conversations of this kind with different individuals in different countries, in asylums and out of asylums, I found of quite as much assistance as visiting institutions; I depended, however, neither upon the one method of gaining information nor upon the other, but as well as I could made use of both.

I may say also that in previous visits to Europe I had seen many of the best known alienists, and year before last had corresponded with them in reference to some of the special topics of which I am here to report.

Secondly. *Some method of governmental supervision of the insane appears to be universal, both in Great Britain and on the Continent.* Of the four great countries the United States appears to be alone in compelling the insane to depend exclusively upon their attendants and superintendents and local trustees. The method of central supervision in Great Britain is somewhat complex, but it secures its object, — the guardianship of the insane.

The English commissioners must not only regularly visit the institutions, public and private, but they must visit each insane person who is kept in care for pay in any private house, and these visits must be made without any warning, and they must see the patient when they come, and they must inquire into and report upon the details of his life and treatment. In the case of wealthy patients — so-called chancery lunatics — that is, those who have property, inquiries of the most minute character are made: the commissioners are to find out whether the patients have all the cigars they want, all the means of amusement and recreation they

¹ Read before the meeting of the National Association for the Protection of the Insane, at Fifth Avenue Hotel, New York, November 11, 1880.

need; whether anything within their means, however trifling, is left undone that would be for their comfort. For all classes of patients, poor and rich, in asylums the commissioners are guardians, and for everything that has a bearing on their welfare. They are consulted in regard to the plans and sanitary arrangements of buildings; they examine the records and registers of asylums, take care of letters addressed to them by patients, and, so far as possible, see to it that no persons are improperly admitted or retained.

The system of governmental supervision of Scotland differs somewhat from that in England, and would appear, on the side of simplicity, at least, to have some advantages over that of England, but in principle it is similar.

Ireland also has a system which in its details is different from that of Scotland or England; but all these countries have a belief in central supervision; neither superintendents of asylums nor any others who have to do with the insane would think of doing away with this system of central supervision any more than they would think of doing away with the asylums.

Thirdly. *In the best asylums of Europe mechanical restraint is reduced to a very small percentage, and instead of restraint labor is employed as a therapeutic agent.* These two facts, absence of restraint and presence of labor, impress one at once on visiting institutions like those, for example, near Edinburgh, or at Alt Scherbitz, near Leipsic. In England and Scotland I found no patient in restraint, and scarcely any excitement in the wards or grounds.

Padded rooms, and in some cases camisoles, are found in European asylums; but padded rooms are often, if not usually, empty, and the camisoles I did not see in use in any of the English asylums, and but very few in France or Germany.

In one of the German asylums the assistant who took me around pointed out one or two patients with their arms confined, and said, "This is not my idea; if I could have my way I would not use these."

The extent to which labor is employed seems incredible, and cross-examinations were constantly needed in order to convince me that not only washing, cooking, cleaning, and the immense farm work on the grounds, but also various trades, were carried on by the inmates, the patients of the asylums. Again and again I asked how they succeeded in making the lunatics work. The average reply was that, in general, there was no serious difficulty; that by proper management they could be trained to work and kept at work, and would do as much as, and, in some cases very much more than, persons in health.

Out of three hundred and forty-seven private and pauper male patients in the West House of the Royal Edinburgh Asylum, two hundred and fifty-four were profitably employed: one hundred and eighty-four in outdoor work, thirty-eight as tradesmen, and thirty-two as assisting attendants. The difficulty that Dr. Shaw, of the Flatbush Asylum, encountered, that is, the objection of friends of the patients to having their insane friends and relatives compelled to work, is not met with in Europe; so far as I could learn no such prejudice has to be overcome. Of five hundred and forty-one pauper patients in the Royal Edinburgh Asylum, of both sexes, only eighteen men and twenty-eight women were prevented by their mental and moral condition from being employed.

This utilization of labor is carried out in detail not

only in England, but in France and Germany; and, as it would seem to me, more thoroughly and successfully in England than in the other countries. At Alt Scherbitz there is a farm, on which the inmates work, and on that and in the shops and in the cooking and washing rooms are carried on almost all forms of labor, — as much as one would see in a good-sized village.

Whatever can be said, or has been said, or will be said to the contrary, the general principle of reducing restraint, or employing it merely in a very small percentage of cases, is not only universal in the best asylums of England, but is growing into favor everywhere in Europe. Among the most thoughtful, scholarly, and advanced men, especially the younger men, both in England and on the Continent, it is no longer a question, but an established principle beyond discussion, the only points raised being those which relate to the degree of restraint, and the best methods to be substituted for it. In these particulars there is not and need not be entire agreement, any more than there is or need be entire agreement among physicians in regard to any hygienic or therapeutic measure.

Among the best alienists of Europe, those who have done and are now doing the most to advance our ideas relating to insanity, theoretically and practically, in and out of asylums, the belief that restraint should be reduced to a minimum is as universal as the belief in the preventive power of vaccination. According to Westphal, non-restraint is the rule in the asylums of Hamburg, Göttingen, Charité (Berlin), Halle, Marburg, Heidelberg, Eberswalde, Keppenheim, Werneck, Munich, and Alt Scherbitz, and in all the asylums of Switzerland.¹

Fourthly, *In the best asylums of Europe the insane are treated much like children.* This principle has not, I believe, been formulated in so many words; but, nevertheless, it is acted upon rationally and instinctively.

All families allow their children liberty, but it is a watched and guarded liberty; we do not chain them, nor shut them up in closets, but suffer them to come and go as they please, and as we please, according to their age, all the time keeping a guardianship over them to see that they do not wander too far away and do not harm themselves or others. The insane are children, diseases of the brain practically depriving them of the advantages that come from education and maturity, taking away their manhood, and carrying them back to childhood; it is therefore wise to treat them like children. They are not, as a rule, to be chained, or cribbed, or bound, or camisoled, or locked in dark closets, or locked up at all, necessarily, but, like children, allowed to come and go as they please and as we please: all the time watched and guarded, lest they wander away or run away, or do injury to themselves or to society.

Now and then a child must be deprived of this average liberty; now and then a lunatic must be deprived for a time — a few hours or days, or longer, — of this average liberty; but for the great majority there should be, always, the freedom of childhood.

When I visited Saughton Hall institution I asked the gentleman who showed me through the buildings what kept the patients from escaping. "Why," said I, "should they not all be in Edinburgh in half an hour?" He replied that the patients were watched more carefully than was apparent, and that the number of escapes was comparatively small. The attendants watched

¹ Alienist and Neurologist, October, 1880.

them without appearing to do so; just as we look after our children without keeping them constantly under our eyes, when we know where they are, and would at once miss them if they should wander, even though they may not know or suspect that we are looking out for them.

The experiment of carrying on a lunatic asylum with unlocked doors, dispensing almost entirely with bolts and bars, is one of the most interesting and important of all the scientific advances that have been made in the treatment of the insane, and both alienists and psychologists would do well to study it. Dr. J. Batty Tuke, of the Saughton Hall institution, near Edinburgh, in his report for 1879, says that when he was medical superintendent of the Fife and Kinross District Lunatic Asylum he ordered all the doors of the asylum, inside and outside, to be left unlocked, — only three wards being excepted, in which thirty out of two hundred and sixty patients resided. As a result of this experiment, there were no accidents and few or no attempted escapes. There was greater tranquillity among the patients, and some who had before tried to run away no longer manifested any desire to do so. At first there was a greater anxiety on the part of the officers and attendants, and this anxiety caused them to be more watchful and careful, and, for a time, there was some increase in the number of escapes; but after a few weeks this anxiety on the part of the officers and the increase in the number of attendants ceased to be necessary, and the doors were not specially watched. This system was carried out in the same asylum by Dr. Tuke's successors, Drs. John Fraser and Joseph Brown.

Dr. Arthur Mitchell, commissioner of lunacy, of Scotland, in his report for 1879, says of this asylum that "it was entered and traversed almost from end to end without summoning a servant or requiring any door to be unlocked; only three wards — two female and one male — were locked." In two other Scottish asylums for the insane this plan has been adopted. In the Barony Asylum, at Lenzie, near Glasgow, under charge of Dr. James Rutherford, every door of the institution is unlocked, although it contains four hundred and fifty patients.

When Dr. Tuke took care of Saughton Hall institution, he carried out the same system of treatment, and in his report for 1879 he says that there have been no escapes and no attempts at escape; that patients who used to stand at the doors, on the watch for a chance to get out, no longer do so; that many whose intellects were but slightly disturbed, and who have recovered, have expressed their gratitude to him for the relief experienced by the change from locked to unlocked doors; that this system has had an educational influence on all the inmates, so that it is now possible to give greater liberty to all than before. Certain select cases are allowed to go on parole.

All this, surely, is a new, interesting, and almost incredible advance on the reforms of Pinel, Hill, and Connolly; it is a higher stage in the evolution of the management of the insane. Pinel broke the chains of the insane, took off the manacles. To-day, we go farther; unlock the doors.

I visited this Saughton Hall institution, and found it difficult to believe the gentleman who showed me over the place, when he said that it was an insane asylum. In external appearance, in internal arrangements, in the attendants, in the manner of the inmates, in the furniture and arrangement of the rooms, there was

nothing that suggested an asylum or a hospital; it was more like a gentleman's delightful country residence, with open windows and doors, and ample and attractive grounds, beautified in the English style with varieties of shrubbery and flowers. I said to myself, This is the poetry of insanity, one might be willing to become insane, if he could be treated here.

In this asylum, and in others of similar character in Great Britain, it is the custom to have the patients, during the summer season, reside in villas by the sea-side, where they remain for a month or two, during July and August, and with most satisfactory results. The sea-side home of Saughton Hall institution is seventeen miles from Edinburgh. Thus it will be seen that the insane in England, who have the means to do so, live like gentlemen and ladies, with their summer and their winter residences, with proper liberty, and supplied not only with the necessities, but also with the luxuries of life.

Fifthly. *The best asylums of Europe are not enormous or imposing buildings, but a series or collection of small or moderate-sized unimposing cottages or houses.* In Europe, as in America, alienists began by placing the insane in gigantic palaces, and there, as here, they are finding out that with the increase of insanity, which could not have been anticipated either here or there, there must also be a change in the method of the construction and arrangement of asylums, although many large buildings remain.

The institution at Alt Scherbitz has six or eight cottages, a small distance from each other, each cottage being about the size of a moderate country home, — all plain brick buildings, pleasing in appearance outside, and comfortable in reality inside. The Royal Edinburgh Asylum is composed of five houses, separated by a considerable distance; between the so-called "East House" and "Craig House" there is a space of almost a mile. It is believed and asserted that this splitting up of large buildings into a number of small ones, and this scattering the insane over a wider area than has been the custom formerly, is an immense practical advantage for all classes of lunatics. It allows them variety of employment; it allows seclusion for those who wish to be secluded; it gives change of scene and environment, so needful for sane and insane.

Sixthly. *The methods of treating the insane in and out of asylums that have been most satisfactory in Europe can be and will be introduced in this country, in spite of and in the face of certain practical difficulties.*

The chief of these difficulties is the nature of our political system, the motto of all political parties being, as you know, The spoils belong to the spoiler. Whatever can be obtained from the State is so much gain to the individual. Offices are the wages that we pay those who obtain offices for us.

Lunacy reform is, therefore, on one side, a branch of civil-service reform, and must rise and fall with it.

One of the Chancellor's Visitors in Lunacy told me that he had a salary of seventy-five hundred dollars, that his position was a life one, that he could be removed only by the joint action of both houses of Parliament and the consent of Her Majesty. But as we have, on the whole, good men appointed on our health boards, with exceptions now and then, it is fair and right and rational to hope that we shall have, on the whole, good men appointed on the central supervising commissions when we get the legislation.

This practical difficulty, therefore, grave as it may

be, though it should not be forgotten, and must always be considered, is yet not to be anxiously or discouragingly feared. The first need of lunacy reform in this country is the creation of a mixed board of government commissioners in each State.

Yet another practical difficulty, not always referred to in these discussions, is that of getting as good officers and attendants at small salaries as can be obtained in Europe for the same salaries. In all departments of activity in Europe we find men of much ability, native or acquired, filling humble or badly rewarded stations, who, in this land, might be making themselves wealthy and illustrious. This fact, the result of limited geographical area and excess of competition, is an advantage to those who seek for attendants or companions for the insane, or for superintendents of asylums. A moderate amount of money will purchase a far higher order of talent, and insure greater devotion, there than here. In the Saughton Hall institution they adopt the plan of having educated, cultured ladies, in reduced circumstances, as companions for the wealthy insane. The duty of these companions is to accompany the patients in their drives and walks, be with them constantly in the drawing-rooms, to supervise, in a degree, the nurses, and, in some instances to sleep with those under their charge; and from this plan results of the most satisfactory character have been gained. In this country it would be far more difficult to find cultivated ladies who would be willing to take such positions.

In the treatment of the insane outside of asylums, by general practitioners and students of the nervous system, there has probably been as much advance in this country as abroad; and especially in the treatment of various morbid states of the nervous system that often lead to insanity there has been nowhere such satisfactory progress as here. This is the philosophical method of combating insanity: treating the insane before they are insane; arresting candidates for lunacy before they have stepped on the threshold of the asylum.

In regard to private asylums, concerning which Dr. Bucknill has lately written with so much vigor, these two facts must be admitted: that the system is liable to abuse or to suspicion of abuse, even under the central supervisory commissions, but that they would appear to be in a degree almost, if not quite, a necessity, with which we cannot entirely dispense.

In this respect, as in all respects, we are to study Europe, not to imitate it; what is good we are to keep, what is evil we are to reject; the chances for improvement by invention and discovery we are to resolutely occupy. To aid all these processes of scientific advance in the study of insanity, and in the management of the insane, this society has been organized, and will be maintained.

RECENT AMERICAN ANATOMY ACTS.

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THE Massachusetts anatomy act of 1831 was productive of results in two directions: it lightened the burdens of the teachers of anatomy in that State, and it led to the enactment of similar laws in other States. Connecticut passed a liberal act, modeled on that of Massachusetts, June 5, 1833, but repealed the same

June 5, 1834. New Hampshire legalized anatomy in 1834, but rescinded its action in 1842. Michigan passed "an act to facilitate the study of anatomy" March 9, 1844, but repealed it April 7, 1851. New York is entitled to the place of honor next to Massachusetts on the list of States which have consistently endeavored to promote anatomical science. The New York law of April 1, 1854, has never been repealed; on the contrary, it has been improved, notably by the amendatory act of June 3, 1879.

Referring to the Massachusetts law of 1831, as amended in 1845, Dr. John C. Warren says: "The superintendent of the House of Industry opposed great difficulties to the execution of this law; but he dying in 1847 an ample supply was obtained for the medical school afterwards, particularly in consequence of the influx of Irish paupers and the great mortality among them." Concerning the working of the same law Dr. George Hayward, writing in 1855, says: "The supply has not been, perhaps, as great as could be wished, but with the increase of population and pauperism this objection will pass away." We doubt if in the judgment of the anatomists of the Harvard Medical School "this objection" has "passed away." We incline to the belief that "with the increase of population and pauperism" there has been at least an equal increase of demagogues, and that no class of men in Massachusetts have a more realizing sense than have its anatomists of the relation existing between eternal vigilance and the price of liberty.

The city government of Boston, November 3, 1869, ordered "that permits be issued by the city clerk, until otherwise ordered, to the surgeons of the Harvard Medical School to take the dead bodies of such persons dying at Deer Island, or the House of Correction, the County Jail, or City Hospital, as may be required to be buried at the public expense." The statutory restrictions concerning the delivery of unclaimed bodies are embodied in the remainder of the ordinance. The anatomists of Baltimore, Washington, and New Orleans might fairly consider this Boston ordinance a liberal one, for they are still obliged to dissect without a legal warrant, or not at all. On the other hand, in Germany or France, where for years the dissecting-rooms have been furnished with the unclaimed dead by the police, this ordinance would unquestionably be considered imperfect and illiberal.

It is unfortunate that American anatomists are forced to dance attendance upon public functionaries for "permits," as they are thereby put in the false position of seeking as a personal favor what ought to be furnished them for the furtherance of the public welfare. Possibly the time is not yet ripe for the Massachusetts anatomists to demand that the unclaimed dead of Springfield, Fall River, Worcester, Lowell, in short, the entire State, as well as of Boston, should be delivered to them at their dissecting-rooms; but such a consummation is none the less devoutly to be wished for. Massachusetts led off in legalizing the dissection of bodies required to be buried at the public expense. Would that she might inaugurate an administrative reform which should prevent the present wasteful decomposition of valuable material at the bottom of graves, and preclude the necessity which requires one who is bent on thoroughly learning practical anatomy in all its branches to seek the anatomical institutes of Europe!

The most elaborate, the most liberal, and also the

most stringent of the American anatomy acts have been passed within the last five years. Those of Michigan, Indiana, Ohio, New York, and Iowa are especially noteworthy.

The Michigan act of 1844, which, as we have noticed, was repealed in 1851, required the officers of the state prison to surrender the bodies of all unfriended convicts dying in their prison to any agent of the medical society of the State who should present an order for the same signed by the president of the society. Similarly, the unclaimed bodies of convicts dying in a county jail, under sentence of six months' imprisonment or more, were deliverable to the agents of the medical society of the county in which the jail was situated. In 1867 a new act was passed, which has since been twice amended, — once in 1871, and again in 1875, April 27th.

As this act contains certain provisions not found in any other which has come to our notice, we give it entire. It is found at page 164 of the Laws of Michigan of 1875.

The People of the State of Michigan enact, That any member of either of the following boards of officers, to wit, the board of health of any city, village, or township in the State, the mayor or common council of any city, and any officer or board having direction, management, charge or control in whole or in part of any prison, house of correction, or jail in the State, shall deliver the bodies of such persons as may be required to be buried at the public expense, when so requested by letter or otherwise, to any member of the medical faculty of the University of Michigan or Detroit Medical College, when there shall be deposited with such board or officer sufficient money to defray the expense and trouble of packing and preparing the same for shipment, which shall not exceed the sum of fifteen dollars for such subject. They shall deliver within forty-eight hours after the death of such person, to the express company or freight company at the nearest railroad station, properly placed in a plain coffin as for burial, and inclosed in a strong box plainly directed to the person and place as directed by the consignee making such deposit, to be shipped to such consignee, to be by him used for the advancement of anatomical science, preference being always given to the faculty of the medical department of the University of Michigan for their use in the instruction of medical students, and after they have made their orders and deposit of money as aforesaid; and such board or officers shall take the usual shipping receipt for such packages, and shall notify the consignee of such shipment by letter mailed on the day the packages are delivered to the express company or freight company at the railroad depot. In no case shall the faculty or the regents be entitled to require or receive from any medical student or students for any such body furnished therein any sum of money in excess of the actual cost of procuring the same. Any of the said officers who shall neglect to comply with any such request, after being tendered or receiving the money so required to be deposited, shall be subject to a penalty of one hundred dollars (\$100) for each body that he neglects to ship as aforesaid, one half of which shall go to the party making the demand and deposit as aforesaid.

Provided, That the university and each and every medical institution shall not receive into their possession such bodies as are procured in this State other than those provided for by the provisions of this act,

and every individual or party violating this provision shall be deemed guilty of a misdemeanor.

SECT. 2. No such dead body shall be shipped as aforesaid, if within twenty-four hours after death, or before such body shall be shipped, any relatives or friends of the deceased who will bury the body at his own expense, or shall require to have the body buried; or if such deceased person was a stranger or traveler, the dead body shall in all such cases be buried.

SECT. 3. No such dead body shall be sold or delivered to any person to be taken out of the State, nor shall any such body be shipped away to any person or place out of the State, or be used within the State for any purpose, except for the prosecution of anatomical science. Any person violating any of the provisions of this act shall be punished by a fine of not less than fifty nor more than one hundred dollars, or by imprisonment in the county jail not less than one nor more than three months, or by both such fine and imprisonment, at the discretion of the court.

SECT. 4. Any practicing physician or surgeon of this State, or any medical student under the authority of such physician or surgeon, may have in his possession human dead bodies, or the parts thereof, lawfully obtained, for the purposes of anatomical inquiry or dissection.

Indiana had not legalized dissection when, in the spring of 1878, the body of the Hon. J. Scott Harrison, a son of the late William Henry Harrison, president of the United States, having been stolen from its grave near to the Ohio line, was found by the son of the deceased, the day after his burial, in a Cincinnati dissecting-room, whither he had gone in search of another body. The only penalty for grave robbery under the Indiana statutes was a fine not exceeding one thousand dollars, provided by the act of June 14, 1852. This case of resurrecting led to the improvement in 1879 of the laws of both Indiana and Ohio. Possibly the stringent amendment to the Iowa law, passed March 26, 1880, might be traced to the outrage of the Harrison tomb.

Chapter LXV. of the laws of the fifty-first session of the General Assembly of Indiana is "an act in relation to the use of human bodies for the purpose of dissection; to require a record thereof to be kept, and to punish the unlawful possession or dissection of such bodies and the violation of graves."

SECT. 7. *Be it enacted, etc.,* That every medical school, or college, or incorporated medical association in this State shall keep, in a suitable book to be provided for the purpose, a record of all human bodies, or any parts thereof, received by such school, or college, or incorporated medical association, or by any officer, professor, or student thereof, for the purpose of dissection; in which book shall be plainly entered, at the time of receiving such body, the name of the deceased person, if known, so received, and his or her residence, when in life; the true name and residence of the person from whom said body is received, and the price paid therefor; which book shall be produced and exhibited, upon the demand of any officer who may, under proper process of law, be making inquest in the buildings or rooms of such school, or college, or incorporated medical association, for any dead body alleged to be unlawfully concealed therein, and upon the lawful demand of any court or officer thereof.

Section 2 makes it punishable by a fine of "not less than one hundred nor more than five hundred dollars,

to which may be added imprisonment in the county jail for any period not less than one month nor more than one year." If the person having the custody of the record required by section 1 fail or refuse to produce it, section 3 declares it a felony, punishable by imprisonment for not less than one nor more than five years, for any person to "receive, or have in possession, or dissect, or permit to be dissected, . . . any such body of which the record required by section 1 shall not have been made." Making a false entry in the record is made a felony by section 4, punishable by not less than one nor more than three years' imprisonment in the state prison.

Imprisonment in the state prison for not less than two nor more than five years is the penalty provided by section 5 for the felon "who shall dissect, or have in his possession for the purpose of dissection, any human body, or any part thereof, other than such as are or may be given by law for such uses." Section 6 makes those who "have the supervision of the dissecting-room and of the instruction given therein" responsible "for bodies received or found therein." Section 7 relates to illegal exhumation, which is made a felony, punishable by imprisonment in the state prison "for not less than three nor more than ten years." According to section 9, one who knowingly aids in concealing an unlawfully procured body is liable, as a felon, to imprisonment in the state prison for from one to three years. Section 10 declares that "any person who shall buy or receive, by gift or otherwise, any dead human body, or any part thereof, knowing the same to have been disinterred . . . in violation of this act, shall be deemed an accessory to such offense, and, on conviction thereof, be punished in like manner as is prescribed in the preceding section."

The above act was approved by the late Governor Williams on March 12, 1879, on which day "a bill to promote the science of medicine and surgery by providing methods whereby human subjects for anatomical and scientific dissection and experiment may be lawfully obtained, and prescribing penalties for violation thereof," was also presented to him for approval. Not being "returned by him with objections within three days thereafter," the bill became an act without his signature. Both these acts are to be sought in the session laws of 1879, where they are found as Chapters LXV. and LXVI. respectively.

The most important sections of Chapter LXVI. are as follows:—

SECT. 1. *Be it enacted etc.*, That when the body of any person who shall die in any State, city, or county prison or jail, or county asylum or infirmary, or public hospital, within this State, shall remain unclaimed by any next of kin or relatives of such deceased person for twenty-four hours after death, and be liable to be buried at public expense, and there are no next of kin of such deceased person, or next of kin, if known, shall, upon notice, refuse to receive and bury the body of such deceased person, such body may be used as a subject for anatomical dissection and scientific examination, in aid of medical and surgical science, as hereinafter prescribed: *provided* that when any person shall express a wish to be buried the dead body of such person shall not be delivered for dissection, but shall be properly buried. . . .

SECT. 3. It shall be the duty of every superintendent, officer, or person having in charge any institution or association named in the first section of this act to

keep a book of record therein, wherein shall be entered, on the day of reception, the name, sex, and age of the person received as a prisoner or patient therein, his or her place of birth and of residence, the names of his or her parents, and their residence, if living, and the names and residence of the wife or husband, if any, and brothers and sisters, if any, of such person, and the date and cause of death of such person; if he or she die in such institution; and the body of any person dying, as aforesaid, whose record, thus made, shall afford proof or probable reason to believe that there are next of kin of such person living within the United States, shall not be delivered to any medical college or incorporated medical association, as aforesaid, except upon the neglect or refusal of such next of kin, after due notice, to receive and bury, or pay for the burial of, such body, but shall be decently interred, subject to all lawful rights or claims thereto of such next of kin.

SECT. 4. The dead body of any convict, executed under the laws of this State for any capital offense, may be, by the sheriff, delivered for dissection, or other scientific purposes in medicine or surgery, to the faculty or other proper authorities of any duly incorporated and organized medical college or association within this State in operation nearest to the place of such execution, upon the proper written request of such faculty or college authorities: *provided* that there be no next of kin, known to the sheriff, of such executed person claiming such body, in which case it shall be delivered to such claimant.

SECT. 5. In case of any vagrant found dead, or in case of any person killed while committing a felony, or if any prisoner is convicted of felony and justifiably killed in attempting to escape from prison or from officers of the law having him or her in lawful custody, upon the body of which person an inquest may lawfully be held, and shall be held by the coroner or other officer thereto lawfully authorized, it shall be the duty of such inquest to inquire as to the existence and residence of any next of kin of such deceased person; and if it shall be the verdict of such inquest that the person so found dead or killed had no next of kin the coroner or other officer holding such inquest may, at his discretion, and with the approval of the sheriff of the county wherein such inquest is held, upon the request in writing of the faculty or other authorities of any duly incorporated and organized medical college or medical association within this State, in operation nearest to the place of such inquest, deliver such dead body to such college for the scientific purposes thereof, taking a proper descriptive receipt therefor, which shall be filed with the clerk of the county.

SECT. 6. It shall not be lawful for any officer or agent of any incorporated medical college, nor for any other person, directly or indirectly, to tender or pay to any public officer, or superintendent, or other person named in or intended in the preceding sections of this act, nor for any such officer, superintendent, or person, directly or indirectly, to ask, or take, or receive any money or other gift, or valuable consideration, or reward for the delivery of any dead body as aforesaid; and any person violating the provisions of this section shall be deemed guilty of a misdemeanor, and, on conviction, be fined in a sum not exceeding one thousand dollars, and be imprisoned in the county jail not exceeding six months.

SECT. 7. Any officer, superintendent, or person named or intended in the preceding sections of this act who shall deliver over, or any person who shall, knowingly, receive for dissection or scientific purposes, as aforesaid, any dead body, in violation of the provisions of this act, shall be deemed guilty of a felony, and, on conviction, be fined in a sum not exceeding five hundred dollars, and be imprisoned in the state prison not exceeding three years.

Ohio, as early as 1831, enacted penalties for grave robbery, but did not pass any "act to encourage the study of anatomy" till March 25, 1870, when an inadequate law with the above title was passed. House bill No. 216, Ohio legislature, 1878, embodied an attempt to repeal the act of 1870 in the following remarkable terms:—

"Whereas, by the laws of this State the bodies of criminals, executed for heinous offenses, unless said criminals are poor and friendless, are entitled to decent burial; and Whereas, poverty is no crime, and the poor, honest, friendless man, in life and in death, should before the law be the equal, at least, of the depraved criminal; and Whereas, by the laws of this State the bodies of deceased and unclaimed poor are authorized to be given over to certain colleges and schools for dissection; therefore,—

"SECT. 1. *Be it enacted, etc.,* That an act entitled 'An act to encourage the study of anatomy,' passed March 25, 1870, be and the same is hereby repealed.

"SECT. 2. This act shall take effect and be in force from and after its passage."

The person who introduced this bill, meeting with unexpected opposition, finally withdrew it, saying that he had "only introduced it for fun." The Harrison horror satisfied the Ohio legislators that anatomy could not be regulated by jocose legislation; and an earnest attempt was made to protect alike the anatomists and the dead.

Section 3763, of the Revised Statutes of Ohio, passed June 20, 1879, reads as follows:—

"All superintendents of city hospitals, directors or superintendents of asylums for the insane, or other charitable institutions, founded and supported, in whole or in part, at public expense, the directors or wardens of the penitentiary, and the coroner in possession of bodies not claimed or identified, shall, before or after burial by such superintendents or directors, on the written application of the professor of anatomy in any medical college, or the president of any county medical society, deliver to such professor or president, for the purpose of medical or surgical study or dissection, the body of any person who has died in either of said institutions from any disease not infectious, if such body has not been requested for interment by a person at his expense; if the body of any deceased person so delivered be subsequently claimed, in writing, by any relative, or the legal representative of such deceased person, for private interment, it shall be given up to such claimant. After such bodies have been subjected to such surgical or medical examination or dissection, the remains thereof shall be interred in some suitable place, at the expense of such medical college or society. But in no case shall the body of any deceased person, specified in this section, be delivered as herein provided until after one or more of the relatives of such deceased person, if known, shall have been notified, in writing, by the officer having such body under his control, and in no case shall such body be delivered until after the expiration of twenty-four hours from death. The bodies

of strangers or travelers who die in any of the institutions herein named shall not be so delivered for the purposes of dissection; and all bodies delivered, as herein provided, shall be used for medical and surgical study and dissection only, and within this State, and the possession of the body of any deceased person for the above purpose, and not authorized under this section, shall be unlawful, and the detention of any body claimed by relatives or friends for interment shall also be unlawful."

Section 7034, of the Revised Statutes of Ohio, 1880, provides as a penalty for engaging or assisting in an unlawful exhumation, a fine of not more than one thousand dollars, or imprisonment not more than six months, or both.

Section 7035 reads: "Whoever, being lawfully possessed of any corpse for the purpose of medical study, uses the same for any other purpose, or removes the same beyond the limits of this State, or in any manner traffics therewith, shall be imprisoned not more than one year."

The New York act of June 3, 1879, may be found printed in full on page 362 of this journal. The act of 1879 extends the provisions of the act of 1854, which applied only to cities having more than thirty thousand inhabitants, to "counties containing such cities." No other change is enacted.

From 1851 till 1880 it was provided in the chapter of the code of Iowa which relates to offenses against chastity and decency that every offender who should illegally disinter, or assist in disinterring or concealing any human body, should "be punished by imprisonment in the county jail not exceeding one year, or by fine not exceeding \$1000, or by both fine and imprisonment." By act of March 26, 1880, every such offender is now liable to imprisonment "in the penitentiary not more than two years, or by fine not exceeding \$2500, or by both fine and imprisonment." By the act of April 22, 1872, Iowa allowed, under the customary restrictions, any coroner or undertaker in any county or city in which the population exceeded one thousand inhabitants to deliver to any medical college or school, or any physician in the State, for the purpose of medical or surgical study, the body of any deceased person, except where such body had been interred or dressed for interment.

Section 4019½ of the Iowa statutes, passed March 26, 1880, contains, so far as the writer has been able to learn, the latest American legislation regarding cadavera. It is as follows:—

"Any physician receiving the body or remains of a deceased person for the purpose of medical or surgical study, and, any professor or person in charge of a medical college or school at which such body or remains are received for such purpose, shall in a suitable book make or cause to be made a legible record of the time when, the name and description of the person from whom, and the place where such body or remains were received, and whether or not such body or remains were received, and whether or not such body or remains when so received was inclosed in any box, cask, or other receptacle, and if so inclosed shall record a description of such box, cask, or receptacle, sufficient to identify the same, together with the shipping marks or directions, if any, on same; and also a description of such body or remains, including the length, weight, and sex of same, the apparent age of the person at the time of death, color of the hair, or beard if any, and any and all marks or scars on

such body by which same might be identified, and whether or not such body when so received was mutilated so as to prevent identification of same. And such physician, professor, or person shall keep the said record, and on demand exhibit same, as also any and all such bodies or remains of deceased persons then in his charge, for the inspection of any sheriff or his deputy: *provided* such record shall not be required one year or more after such body was received. Any physician or professor or teacher in a medical college or school who uses or allows or permits others under his or her control or charge to use the body or remains of a deceased person for the purpose of medical or surgical study without the record as aforesaid having been first made, or on demand being made by the sheriff or his deputy as aforesaid, shall refuse and fail to exhibit any such record or body in his charge or under his control to such officer for his inspection shall be guilty of a misdemeanor, and upon conviction be punished by imprisonment in the county jail not exceeding one year, or by fine not exceeding \$1000, or by both such fine and imprisonment."

The business of graduating medical students who are required to show evidences of at least a cursory acquaintance with *cadavera dissecta* has assumed such proportions as an industry in States without anatomy acts that further legislation for the protection of anatomists is inevitable. As we write, Maryland, which has neither a law forbidding grave robbery nor one allowing dissection, is agitated over the very recent violation of graves in a fashionable Baltimore cemetery. A newspaper even goes so far as to suggest that the legislature "frame a law of sufficient penitentiary penalty to prevent 'body snatching.'"

RECENT PROGRESS IN OTOLGY.

BY J. ORNE GREEN, M. D.

THE TREATMENT OF OTHÆMATOMA.¹

THE common methods of treatment heretofore adopted for hæmatoma auris are:—

(1.) Expectative. (2.) Resolvent (external applications of different kinds). (3.) Surgical (evacuation of the blood by aspiration, acupuncture, incision with packing the cavity and applying a pressure bandage, seton).

The proposition of Gray to ligate the arteria auricularis posterior is not known to have been attempted.

As none of these methods afforded a certain means of cure, and as opinions varied in regard to which of them was the best, Meyer decided to try for othæmatoma the treatment which had been introduced in rational medicine by Metzger, and the result was so favorable that it is worthy of further trial. This treatment consists in systematic kneading of the effusion to assist absorption, and keeping a pressure bandage continuously applied. In three cases in which this was tried the result was very satisfactory: in two of them resorption took place within a few weeks, and a cure was effected without any deformity of the auricle; in the third case resorption had been nearly completed and the cure was progressing satisfactorily when the patient withdrew from observation. The three cases are given in full, and, aside from the method of treatment, are interesting contributions to the ætiology of the disease.

¹ Archiv für Ohrenheilkunde, xvii. 2, Meyer.

The first case was that of a man, aged thirty-four, strong, not plethoric, and perfectly healthy, as was shown by a thorough physical examination. His father, however, was insane (religious melancholia) at sixty-four years of age, and died a year later. One and a half months before the patient applied for treatment, without previous injury of any kind, a hard, insensitive nodule appeared on the left auricle, which increased in size gradually and became fluctuating, without any change in the skin and without pain, tension, or sensitiveness. This was incised and dark fluid blood evacuated. From this time the tumor filled rapidly, became sensitive, and was accompanied by headache. It was again incised three days later and the cavity stuffed with charpie, but the pain increased, extending to the temple, vertex, and nape of the neck. On examination by Meyer, after this, in addition to the hæmatoma occupying the usual position on the anterior surface of the auricle, the whole auricle was much inflamed, and this inflammation was first reduced by applications of lead water. Massage was then begun four times a day, and continued for a quarter of an hour each time, the skin being first anointed with glycerine-salve. Between times the auricle was kept firmly compressed between masses of charpie by means of a firm bandage over the head. Massage was stopped as soon as it produced pain, but, except upon the first day, was well borne for the whole fifteen minutes. One week after beginning treatment the hæmatoma had almost disappeared and the skin was freely movable upon the cartilage, but there was a slight thickening of the ear. Massage and the pressure bandage were continued for some weeks. When seen ten weeks after treatment the auricle was absolutely perfect except a very slight thickening.

The second case was in the same patient, but on the right (other) auricle, one and a half years later. The tumor began in the same way, and the diagnosis was confirmed by aspiration. The same treatment was used, but massage was employed only twice a day instead of four times. In three weeks the ear was well, and when the patient was seen four years afterwards both auricles were perfect.

The third case was that of a woman, aged thirty-four, and the tumor was the result of a blow. She herself appeared perfectly healthy, but her mother had been insane. The same treatment was used, and the tumor had almost disappeared when she withdrew from observation.

In all three cases external evidence of a degeneration of the cartilage, which has been considered by some as the histological foundation of the disease, was absent; the existence of any predisposing disease was wanting, and the only cause to be discovered was in the history of the patients, in both of whom the parents had been insane. In this connection Meyer calls attention to Hun's observation that the appearance of othæmatoma usually precedes a later mental disturbance, and Roosa's that, although persons suffering from vascular tumor of the ear may not always be insane, they generally have brain disease; he considers these points worthy of further investigation.

PERICHONDRITIS AURICULÆ.

Closely allied to othæmatoma, at least in the external appearances, in the deformity which results without treatment, and often with the best care, and also in the fact that there exists a degeneration of the car-

tilage of the auricle, is perichondritis auriculæ, till recently described under othæmatoma. But few cases have ever been reported, but the literature of the subject is now enriched by three cases reported by Knapp.¹

The first case, which was quite typical, was that of a young man, sixteen years of age, in good health. The first appearance of the disease was a slight, moderately painful swelling of the right meatus, which was seen a few days after its beginning. Examination showed the external portion of the meatus slightly red and uniformly swollen, so that its calibre was obliterated, and fluctuation was discovered at its anterior lower part. It was thought to be a furuncle of the meatus, and the fluctuating portion was opened, but nothing but watery pus evacuated. This somewhat reduced the swelling for a week. Then the concha became swollen, fluctuating, and slightly painful on pressure; an incision again evacuated only watery pus. It again swelled, and became dark red, and a third incision evacuated viscid fluid, with denser yellowish flakes. With a probe the perichondrium could be raised with the skin, and the cartilage was hard and uneven. A silver drainage tube was inserted, and a pressure bandage applied. The swelling spread over the whole anterior surface of the auricle, was in some places diffuse, in others nodular and fluctuating; wherever this latter characteristic was noticed incisions were made, and viscid pus, but no blood, was evacuated. From the sixth week the swelling began to subside, first in the meatus, then on the posterior surface, which had become swollen last, and had been free from supuration, and finally over the anterior surface. The preauricular glands, which had been much swollen, gradually returned to their normal condition, but the antihelix, the fossæ antihelicalis and scaphoidea, and the greater part of the concha had disappeared, and were replaced by hardish nodules and ridges; the helix was considerably atrophied, and the misshapen auricle measured only two thirds of its natural size.

The second case appeared like the first, but treatment was refused, and nothing more was seen of it.

The third case began, like the first, with reddish diffuse swelling of the cartilaginous meatus, which gradually extended into the concha. A large and deep incision was made by Dr. Brandeis, with evacuation of watery pus; but, different from the first case and from others which have been reported, the swelling gradually subsided and disappeared in a few weeks. No report is made of the appearances after cure.

Dr. Knapp calls attention particularly to one point in the differential diagnosis of this disease, namely, the integrity of the lobule, which in this disease is unaffected, while in all other kinds of diffuse inflammation of the meatus, auricle, or its surroundings, the lobule participates in the inflammation.

The duration and severity of the disease, so different from diffuse inflammation of the furuncle of the meatus, with which it is often confounded, and above all the very serious permanent deformity which results from it, make it an important subject for investigation.

—Sir Benjamin Collins Brodie, professor of chemistry in the University of Oxford, the eldest son of the late eminent surgeon, died at Torquay on November 24th, in the sixty-fourth year of his age.

¹ Archives of Otolary, vol. ix. No. 3.

Reports of Societies.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

DECEMBER 13, 1880. DR. JAMES C. WHITE, permanent chairman, presided.

FREE DISPENSARIES.

DR. J. H. WHITTEMORE read a paper entitled *Are Free Dispensaries Abused?* and the following is a summary of his remarks:—

Should any change from the present course be deemed advisable, to my mind, the first and most important step to be taken is the earnest, hearty, and complete coöperation of all the dispensaries and hospitals in some one distinct plan of work.

When the associated charities were first started I hoped we could find aid in this work from them; but further thought and examination induces me to believe that, as now organized, such aid would entail so much red tape, that suffering would follow.

The provident dispensaries are quite satisfactory in England; but from my imperfect knowledge of them my impression is that the detail and machinery connected with their working would render them impracticable here at present.

My last suggestion, and the one in which I have at present the most faith, is that of a competent and experienced paid inspector at each of the large dispensaries. Such an officer should examine each and every person who applies for treatment, and should have power to exclude *all* except the deserving poor. He should personally examine each case, and after the hours of admission to the dispensary he should devote the remainder of the day to visiting and examining into the condition of those who have been treated, in order to ascertain if they are as represented, — poor and deserving people.

DR. H. W. WILLIAMS said that the abuse was a crying one, and that very great injustice was done to the younger men of the profession who would be willing to take the smaller fees.

The medical profession was not exorbitant, and had always been benevolent in its intercourse with the poor.

At the City Hospital no pay was demanded from the patients, but the abuse of this charity was apt to come from the people living outside of the city limits, who were unwilling to go to their family physician when they were able to obtain good advice at the hospital from the best men.

He said that the work done in his especial department was an enormous one, and was more than the medical officer in charge had time to attend to, and it seemed an abuse that out-patient physicians should be saddled with the additional burden of a class of patients who were always very exacting, and were rendered still more so when, as at the Massachusetts General Hospital, they paid twenty-five cents a visit.

He thought that Dr. Whittemore's suggestion was a good one, and that if it were adopted the hospital outdoor relief would still be sufficiently abundant for teaching.

DR. HASTINGS spoke as follows: Reference has been made to the Boston Dispensary and what has been done there to lessen the number of patients.

The increase in attendance at this institution from 1870 till 1877 was about one hundred per cent. The total number of new patients treated in 1877 was over 48,000. This caused a great amount of work for the physicians, and a large deficit in the treasury. It became necessary to do something; and finally the plan of investigation, to which Dr. Whittemore has alluded, was adopted. This experiment has been very successful; the records of the institution for the past year showing a falling off in attendance of fully one third. To still further aid in this work, and to add to the finances, the system of charging for medicines was adopted in the early part of the present year. This second and last experiment has resulted better than was anticipated. The apothecary has dispensed, under the new plan, in the last six months 16,000 recipes, of which 15,000 have been paid for at the nominal sum of ten cents each, and the remainder free. This covers the ground of what has been done at the Boston Dispensary. I feel that a great deal has been accomplished in the way of checking the abuse of this charity, and I very much doubt if the institution was ever less abused than it is to-day.

DR. ELLIS approved of Dr. Whittemore's suggestion and said that a case of gross abuse had been made so clear that it merely remained for us to see that it was rectified. The educational side of the question was an important one; but there was no reason why this should interfere with the reform. There might be too many patients for educational purposes, and education would be taken care of even when the number of cases was cut down.

DR. G. B. SHATTUCK thought Dr. Whittemore's remarks concerning the working of the provident dispensaries in England rather too favorable. There had been, within a few months even, much complaint of abuses in connection with this form of medical charity also. It offered the same temptations to people of moderate means that the dispensaries offered to the more needy, and the well-to-do were no less ready to yield to them than the comparatively poor.

DR. WARREN remarked that, in reviewing the various plans which had been proposed in England regarding this abuse, none appeared to be so good as the plan which was somewhat similar to that adopted by the associated charities in this country; and he believed that the same work could be done better if the various agents should coöperate with each other.

DR. HODGES supposed that a large portion of the out-patient practice was unnecessary, just as it was in private practice, and asked what evidence there was that these patients would go to the profession if the dispensaries were closed to them.

DR. MINOT agreed with Dr. Hodges that probably only a smaller number of unworthy applicants who might be eliminated from dispensary relief would ever pay anything to regular physicians. The poor are often willing to give a large fee for a "first-class" consultation, and it is well known that patients are brought in carriages for free treatment to the out-patient department of the Massachusetts General Hospital; but such patients would probably, in most cases, pay nothing for regular medical attendance. Moreover, many of the applicants, who were previously in comparatively good circumstances, are utterly unable to afford anything for medical advice when their wages are stopped in consequence of their inability to work.

DR. AYER, in reply to Dr. Hodges' inquiry, "Have

any physicians suffered from the out-patient departments?" remarked that, from personal observation and repeated conversations with physicians, chiefly junior members of the profession, at the North and West Ends, I am confident that they regard themselves as robbed of much that legitimately belongs to them. With them it is a serious grievance. Before the existence of the out-patient department physicians accepted in hand a small fee, say fifty cents or one dollar, from the poor, according to their ability. I have known such families, owning their houses, their husbands having steady work, and yet seeking medical charity. My remarks apply especially to the Massachusetts General Hospital, as the surrounding field is more familiar to me.

Indiscriminate medical charity works an injury to the poor, lessens their self-respect, is a fraud on the part of many recipients, and serves to bring into disrepute the work of a noble profession.

DR. LYMAN thought that there was no doubt but that injury was done to physicians by this abuse, and said that probably one half of the patients were able to pay.

The trustees of the hospitals must be taught that there is a vast deal of imposition, and it would be well to have the patients bring certificates of worthiness.

DR. BIGELOW said that the trustees of the Massachusetts General Hospital were fully alive to this abuse, and that the discussion of its reform had originated with them.

Another very important consideration was pauperism, and how far this gratuitous aid encouraged it.

The study of thriftlessness was an interesting one, but sickness often deprived a family of its support, and withholding advice did not imply that the friends of the applicant would furnish aid. Dr. Whittemore's suggestion was a good one, for it provided for emergencies, but to obtain a good man for the place implied a large salary of perhaps twelve or fifteen hundred dollars a year.

DR. T. B. CURTIS instanced cases of the abuse which had come under his notice at the Massachusetts General Hospital.

DR. ROWE thought that unity of action was needed. He then spoke of the difficulties in the way of the reform at the City Hospital, and thought that the Massachusetts General Hospital was in the best position to experiment with Dr. Whittemore's suggestion.

DR. BIGELOW replied that it would be difficult for one institution to take up the reform alone, and that coöperation was needed, originating with the directors of public institutions at large.

DR. WING suggested that the abuse might be remedied by the adoption at the several free dispensaries and hospitals of the rule that a person not known to the authorities of the institution as deserving should not receive treatment unless bringing a certificate from some physician that he or she was a worthy subject for medical charity. Cases of emergency would of course be excepted, and until the rule became generally understood it might be well to except the *first visit*, the patient being *then* informed that such a certificate would be required in the future.

Any really deserving person could get such a medical certificate, if not from *one* doctor, then from another. If it was found that a physician was giving certificates in improper cases, it would be easy to call his attention to the fact. Such certificates might be

subject to the indorsement of some officer of the institution, if this was deemed advisable.

DR. WHITE stated that he held opinions with regard to the alleged abuse of out-patient departments different in many respects from those expressed by previous speakers. He believed that the position of a teacher gave a large degree of latitude to those holding dispensary appointments, which the profession should not overlook in the discussion of the subject. The question of the supply of the necessary clinical material for the proper education of future members of the profession far outweighed, in his mind, any possible injury to physicians by depriving them of fees or any remote danger of encouraging pauperism, as had been so generally urged against the present system in this discussion. No general repressive measure could be applied, as had been recommended; without injury in this regard. We might, perhaps, divide the number of general medical and surgical patients now seeking charitable relief in Boston dispensaries by three, and yet medical education would not directly suffer in consequence, but it was a very different matter in some of the special departments. In his own, for instance, at the Massachusetts General Hospital, from twelve to fifteen hundred new patients were seen during the year, and yet he held that it had not yet reached its full teaching capacity. By such opportunities alone, with those furnished by the other dispensaries, could students be properly educated in this department. He had no doubt that a large number of those who sought his advice there were well able to pay the specialist's fee, as they came from a wide area in New England, but their contribution in this way to the proper illustration before the class of a subject demanding a large and varied exhibition of patients was ample payment for the professional services they received, or any indirect benefit on the part of the hospital. With regard to the question of depriving the profession at large of prospective fees by such gratuitous treatment, he thought that if any one had cause to complain it was chiefly the specialist himself, whose individual advice was thus sought after and given for the benefit of medical education.

The remarks which have been made during the evening against the present system of dispensaries seemed to him too sweeping and one-sided. There could be no doubt about the occurrence of some measure of abuse, but it was inevitable. Out-patient departments were established all the world over, and were regarded as essential feeders of internal departments and indispensable aids to the education of the physician and student. They were to be encouraged for these purposes in every legitimate way, particularly in connection with their special departments, for which hospitals in this country did not supply the needed internal accommodation.

DR. WHITE did not have much confidence in the efficacy of the reader's plan to suppress the real abuse of medical charity. He believed that this, like all medical abuses, should be corrected by the profession itself; not by hospital or charity boards of non-professional persons. He doubted the power of inspectors to determine by the appearance of out-patients at the hospital, or even by house visitation, their real need of medical charity. If anything was to be accomplished, however, he believed, with Dr. Bigelow, that it would be by the coöperation of the staff of all the medical charities of the city.

STRAIN OF NERVES.

DR. J. J. PUTNAM reported two cases of injury to nerve trunks resulting from muscular strain.

INFLAMMATION OF MASTOID.

DR. J. O. GREEN showed a specimen of diseased mastoid, which was very unusual in that a suppuration with caries of the interior of the mastoid cells had perforated downwards by three openings through the fossa digastrica into the deep muscles of the neck, instead of, as is very common, perforating the external or internal table. The case occurred in the practice of Dr. Charles S. Rodman, of Waterbury, Conn., from whom it was received.

In answer to a question by Dr. Lyman, Dr. Green said that inflammation of the mastoid could go on until caries occurred, without sufficient pain being produced to make the patient think it worth while to call in a physician, and that such cases were quite common.

A CASE OF HÆMORRHAGE INTO AND AROUND THE PANCREAS, WITH SUDDEN DEATH.

DR. F. W. DRAPER reported the following case: A man, thirty-one years old, a printer, of intemperate habits, was seized suddenly with pain, which he referred to the epigastrium. Up to the time of this attack he had been in good health, except a slight cold, from which he had suffered some inconvenience during the previous week, but which had not confined him at home. At noon, on the day of his death, he ate his usual hearty dinner. The pain of the attack, which began about six P. M., was soon followed by nausea and an ineffectual attempt to vomit. Presently collapse supervened; the patient was scarcely able to speak; he fell from his chair to the floor; he was evidently in extreme distress. In this condition Dr. J. F. Bush saw him, and having prescribed a stimulant (brandy), which seemed to produce a momentary reaction and relief, he directed that the man be taken to the hospital. The patient died very quietly in the carriage on his way thither. The whole duration of the attack was between thirty and forty-five minutes.

Autopsy, nineteen hours post mortem. The noteworthy appearances were as follows: The heart was moderately enlarged in volume and the left ventricle was dilated; the muscular tissue was of good color, but quite friable. The intima of the aorta showed the remains of a former endarteritis. The blood was liquid and of dark color. Both lungs were injected, and the upper portions were oedematous. The bronchial mucous membrane was thickened and injected and covered with muco-purulent secretion. The kidneys and spleen were engorged. The liver was normal. The pancreas was normal in size, shape, and position. The retro-peritoneal connective tissue adjacent to it was infiltrated with blood; not to a degree sufficient to form anywhere a free clot, but involving nearly two thirds of the length of the organ, and spreading at either side, above and below, to the distance of about an inch. The hæmorrhage was most abundant at about the centre of the organ. Section of the substance of the organ found the interior deeply stained of a dark red by the blood infiltrated within the interlobular tissue, the change being greatest in the middle portion.

¹ Concerning the relation of pancreatic 'hæmorrhage' to sudden death, see Klebs' Handbook of Pathological Anatomy; also Friedrich's article on the pancreas in Ziemssen's Cyclopædia (vol. viii. page 621), where a full bibliography of the subject is given.

The splenic artery was enlarged and tortuous. Its intima was rough, and had a velvety, or finely granular, appearance.

The muscular tissue outside the peritonæum and connective tissue was healthy in appearance and entirely free from blood staining.

The intestines and stomach were normal; the latter contained a quantity of half-digested food.

DR. W. F. WHITNEY, to whom the specimen had been submitted, reported that microscopic section showed the interlobular tissue infiltrated with blood, which had permeated among the cells in many places, and here the corpuscles were destroyed. The cells themselves were very granular, but osmic acid failed to show the presence of fat in them. Beyond this I have been able to find no assignable cause for the hæmorrhage.

THE PUBLIC HEALTH ASSOCIATION.

FIRST DAY'S PROCEEDINGS.

THE eighth annual meeting of the American Public Health Association was held in New Orleans, La., December 7th to 10th inclusive. The meeting was one of the most successful ever held, over three hundred members, from all parts of the country, being present. The character of the papers read was, with some exceptions, of a high order, and the discussions, with one exception, free from acrimony.

The arrangements of the local and executive committees for the dispatch of business were almost perfect, and the social features were most pleasant and agreeable. There was a delightful lack of those entertainments *en masse*, which generally characterize large assemblies, and which usually degenerate into absolute boreas. Private hospitality, on the contrary, was unbounded, and it is safe to assert that probably nine tenths of the strangers had an opportunity of stretching their legs under the private mahogany of some one of the many hospitable citizens of the Crescent City.

The Association assembled at Grünwald Hall at ten A. M. of Tuesday, December 7th, the president, Dr. John S. Billings, U. S. A., calling the meeting to order; Dr. E. H. Janes, of New York, secretary.

The report of the treasurer, Dr. J. Berrien Lindsey, of Nashville, Tenn., showed a balance of \$705.40 in the treasury.

The scientific portion of the proceedings was opened by Dr. Gustavus Devron, of New Orleans, who read a paper on Abattoirs.

The paper contained a historical summary of the establishment of public institutions for the slaughter of animals for food, in the course of which due praise was awarded to the construction and management of the abattoir at Boston.

Abattoirs were established in New Orleans by an act passed in 1869, incorporating the Crescent City Stock Landing and Slaughter House Company. The whole establishment is under the direct surveillance of the Louisiana State Board of Health. The average daily slaughtering capacity of the abattoirs is 475 oxen, 200 calves, 300 sheep, and 300 hogs.

The paper of Dr. Devron was followed by one on How Abattoirs improve the Sanitary Condition of Cities, by Dr. Bushrod W. James, of Philadelphia. Dr. James considered in detail the evils of the private

slaughter-house system as compared with the concentrated or abattoir system.

A paper was read by Dr. Joseph R. Smith, surgeon United States Army, upon the Texas Cattle Fever. From extensive observation and correspondence with a large number of cattle-breeders, Dr. Smith concludes that the question of an epidemic among Texas cattle must be answered in the negative, but that among the cattle imported into Texas from other States the mortality is very large. No definite conclusions are yet available as to the pathological condition or ætiology of the so-called Texas or Spanish fever of cattle. The paper was followed by a brief discussion, which elicited very little additional information.

A letter from Dr. J. G. Pinkham, secretary of the Sanitary Association of Lynn, Mass., was read by Dr. E. M. Hunt. The letter was explanatory of the organization and objects of that association. Dr. Devron referred to the New Orleans Auxiliary Sanitary Association as having succeeded in placing the city in the best sanitary condition it had enjoyed during its existence, and that the good work would be continued until the sanitary condition of New Orleans would be second to no other city. The Report of the Committee on a Plan for the Prevention of the Spread of Venereal Diseases was read by the chairman, Dr. Albert L. Gihon, medical director United States Navy. The plan proposed by the committee implies the appointment of sanitary officers in every hamlet, village, town, and city of the country, subordinated to and controlled by county, municipal, or state boards of health, and empowered to investigate and discover every preventable cause of disease, syphilis included. They further recommend the establishment of special or lock hospitals for the gratuitous treatment of all venereal affections, and, in the absence of such hospitals, provision for their treatment without charge and without unnecessary exposure of their victims by health officials, under whose cognizance they have come. The committee hope to obtain the passage of enactments having in view the regulation of persons engaged in the military and naval services of the government, and also those ordinarily subject to the control and supervision of the police and municipal authorities of cities and large towns, though convinced that, in the end, the extension of the control and supervision to the whole civil population will be the inevitable legislation of all countries. These conclusions were formulated in a resolution, which, after some discussion, was adopted by a large majority.

An excellent paper was read by Col. George E. Waring, Jr., of Newport, R. I., on The Storm-Water Question in Relation to Sewerage. The conclusion of Colonel Waring is that storm-water in cities should be carried off as much as possible by surface drainage, and only when the accumulation of water on the streets and gutters becomes so excessive as to interfere with travel, to injure pavements, or to flood cellars, etc., should provision be made for an underground flow.

Professor Brewer, of New Haven, read a brief paper on The Action of Muddy Water on Sewage.

From the results of his experiments Professor Brewer suspects that muddy water and sewage have a tendency to purify each other; that sewage discharged into a river of muddy water would be more rapidly purified of its putrescible material (albuminoids) than if it were discharged into a river of clearer water; that this would not necessarily extend to the removal

of the specific germs of certain diseases, which we know can exist in water of great transparency, but of the dissolved and very finely suspended matter which gives rise to foul smells, and which, in chemical analyses, are taken as the measure of sanitary impurity. Professor Brewer states that he has several times known the unpleasant odors which sometimes occur in city waters distributed from reservoirs to suddenly diminish or entirely disappear with the *roiling* of the water by a heavy rain. Others are reported to have made similar observations.

A paper on The Prevention of Certain Contagious Diseases by Local Boards of Health, prepared by Dr. James Crane, health officer of Brooklyn, N. Y., was read by Dr. Walcott, of Boston. The paper dealt in a concise manner with the regulations in force in the city of Brooklyn for the prevention of such diseases. The results obtained are apparently favorable to the system, but sufficient time has not elapsed since its enforcement to permit any conclusions to be drawn.

At the evening session addresses of welcome were made by Governor Louis A. Wiltz, of Louisiana, Mayor I. W. Patton, of New Orleans, and Dr. J. P. Davidson, vice-president of the Louisiana State Medical Society. Immediately afterward the presidential address was delivered by Dr. John S. Billings, surgeon United States Army, president of the Association.

Dr. Billings pointed out the difficulties which sanitarians and sanitary authorities had to contend against in proposing and carrying out measures for the prevention of diseases. He also referred to the apparent conflict between facts and theories as developed in sanitary surveys of cities and towns. While dealing with the question of sanitation in a general manner only, Dr. Billings made the following specific suggestions to local health boards:—

The first thing to be done is to provide for a registration of deaths, which can best be secured by a law or ordinance to the effect that in every case the head of the family, or the householder, shall make a return of the death, and obtain a permit for burial or removal of the body; and that failure to do this shall be taken as evidence of suspicious circumstances connected with it sufficient to warrant the action of the coroner.

The second thing to be done is to take account of stock by making a sanitary survey of the place, and putting on record the condition of each set of premises. The health officer of a place should have in his possession a brief description, from a sanitary point of view, of every premises in a city, and a person proposing to buy or rent a dwelling-house ought to be able, on payment of a proper fee, to obtain a certified copy of the sanitary history of the house he proposes to occupy, its connection with sewers, the number and causes of the deaths that have occurred in it or in the square in which it is situated, etc., just as much as he is enabled to obtain a record of title.

SECOND DAY'S PROCEEDINGS.

The executive committee recommended a large number of gentlemen and one lady for membership, who were all unanimously elected. The following recommendation from the executive committee was adopted:

That the standing rule adopted at the last meeting for the creation of an advisory committee be continued; that it shall be hereafter known as the advisory council, to consist of one member from each State, one each from the army, navy, and

marine hospital service, the commissioners of education; and that in addition to the duties heretofore performed by the advisory committee, it shall act as a nominating committee for this Association.

The executive committee reported back the following resolution without recommendation:—

Resolved, That the executive committee be instructed to communicate with the state and municipal boards of health throughout the country, and supply them with a copy of the report of the committee on prevention of venereal diseases, and request their cooperation in the attainment of the object of the resolution submitted and adopted by the Association.

In the course of the discussion which ensued Rev. Dr. Wines, of Illinois, said the subject was one of jurisprudence and social reform. The report of the committee for prevention of venereal diseases contemplated the police surveillance of prostitution, the expenditure of large sums of money from the public treasury, and increased expenses by boards of health. The question was too broad to be taken hold of by an association organized for sanitary reform. He did not know that the society could prepare a law, which was the necessary requisite for a proper enforcement of the suggestions of the committee. He had no great and superstitious confidence in the power of legislation to right wrongs. If the resolution was passed some cities would adopt a modified system of licensed prostitution. He would ask the members of this Association if they thought the police in large cities were the proper persons to carry out such a plan as the one recommended. Just in proportion as marriage was increased prostitution was decreased, and *vice versa*. Whatever promotes prostitution strikes a blow at marriage.

Dr. Gihon replied that the very object of this resolution was to defend the marriage bed. The object of this resolution was to protect the young woman, and not have her prospects forever blighted by a syphilitic young man.

Dr. Bell said the committee who have had this in charge have considered every aspect in the case for four long years. We must now deal with results, not causes. This Association was organized for the prevention of disease. The committee do not ask that women alone be examined, but that men should be examined and prevented from spreading their diseases broadcast throughout the land.

Dr. Ames, of Massachusetts, was of much the same opinion. Dr. Hunt, of New Jersey, Dr. Chamberlain and Professor Brewer, of the Connecticut State Board of Health, objected to the resolution, and thought its passage would not promote sanitary reform in their States. The resolution was finally adopted by a vote of ninety-three yeas to twenty-eight nays.

Dr. McCormick, of Kentucky, introduced a resolution, which was referred, that a committee be appointed to consider the advisability of establishing a national museum of hygiene. Dr. Chancellor, of Maryland, introduced a resolve invoking the passage, by state legislatures, of measures imposing severe penalties against the spreading of contagious diseases by individual carelessness.

Dr. Billings, the president, read the Report of the Advisory Committee on National Sanitary Legislation, of which committee he was chairman. This report gave a brief summary of the action of the committee in regard to measures of sanitary legislation in Congress during the past year, and concluded as follows:—

On the 15th of October, 1880, a circular letter was sent to members of the executive and advisory com-

mittees, asking them what action, if any, they desired to recommend to the Association with regard to congressional legislation during the coming winter.

To this circular thirty-four replies have been received, which may be summarized as follows:—

Thirty-two recommend the passage of a resolution by the Association urging Congress to make the necessary appropriations to enable the National Board of Health to continue the work which it has begun, and to enlarge the scope of the special scientific investigations under its direction.

The other two approve this, but think that in addition the Association should declare itself in favor of giving more power to the board over quarantine matters.

So far as I can learn the National Board itself has no desire for any increase of power so far as quarantine matters are concerned, and indeed considers it best to await the recommendations of the International Conference on Quarantine, meeting in January, 1881, before advising any further legislation on this subject.

With the work of the board during the past year it is presumed that all are more or less familiar through its bulletin and supplements, and more especially from its last quarterly report.

The main features of this work in the absence of epidemics are:—

(1.) The collection of statistical and other information relating to the public health, and the publication of this in its bulletin.

(2.) Investigations made by specially skilled chemists, engineers, and physicians into the causes of disease.

(3.) The maintenance of ship hospitals at Ship Island and Sapelo Sound. To these it desires to add at least one similar station on the Texas coast and one near the mouth of Chesapeake Bay.

(4.) The maintenance of a system of steam and other boat inspections on the Mississippi River.

(5.) Aid to certain cities to maintain their quarantine establishments.

For all this the board has sufficient power if it is provided with the necessary funds.

In short, a great majority of the executive and advisory committees are of the opinion that it is not desirable that the Association should at this time recommend any change in existing legislation affecting the National Board of Health, but that the Association should use its influence to induce Congress to make suitable appropriations for its work, and to authorize the prompt publication of its reports.

The attention of the Association is invited to two measures of public health legislation, which are of special interest at the present time, and which merit careful consideration on the part of those interested in such legislation.

The first of these relates to laws for the prevention of the adulteration of food and drugs. The report of the committee of the National Board of Trade appointed to award prizes for the best draught of acts, state and national, for the prevention of such adulteration has been recently completed, and will be one of the topics of discussion at the meeting of the National Board of Trade at Washington on the 15th instant.

As this subject is one which the advisory committee has not had sufficient time to consider, to enable them to make any definite recommendation, it is advised that the matter be referred to a special committee, who

shall report to the Association at the present meeting as to what action is desirable in the premises.

The second subject is that of the international quarantine conference, which is to meet in Washington next month. Upon this subject the advisory committee has no recommendations to make at present, and it is not considered probable that the action of the conference will be sufficiently advanced before the close of the present session of Congress to permit of any legislation upon the matter in the form of a treaty or otherwise, being presented during the present winter.

Dr. G. B. Thornton, of Memphis, read a paper on 'The Sanitation of Memphis.' He maintained that the problem of the sanitation of Memphis is now solved, and it is practically reclaimed from those factors which entered so largely into its unsanitary condition, and acquired for it such an objectionable reputation for salubrity.

That, so far from its being simply on a par with other cities in the Mississippi Valley, it is in the advance, not only in the accomplishment of its work, though that is not by any means perfected, but in a proper sense of what is essential to the maintenance of an effective sanitary system. While nature has done a great deal in the topography of the site on which the city is built, it required the intervention of art well directed to remove many existing defects. Its elevated position and natural water-sheds afford advantages for drainage not inferior to those possessed by many cities of its size more favored by a lower death-rate.

In regard to quarantine, he held that Memphis can better afford to give up the commerce of the whole country south of it for three or four months of the year, for an indefinite period, than to be again subjected to an epidemic of yellow fever.

The commercial advantages arising to Memphis from an infected place bear no comparison to the disadvantages incident to the danger of infection from such place. The prevention of a recurrence of epidemic disease of any character and the maintenance of the best possible sanitary condition is with the authorities of Memphis their first duty. Not only further progress and development of the city depends upon it, but a preservation of its present advantages and the prevention of a rapid retrograde. No people have a stronger cause than those of Memphis to properly appreciate the inconveniences of inspection improvements and quarantine restrictions.

In conclusion, the reader said that until the question of the ætiology of yellow fever is settled in New Orleans, which can only be done by an efficient quarantine, it is impossible to determine when a place which has commercial intercourse with New Orleans is safe from infection during a season of the year when the atmospheric conditions are such as to be favorable to the spread of the yellow-fever poison when introduced into that place. Therefore, with the present administration of Memphis, I think I can foreshadow the future policy to be pursued in dealing with this question. A quarantine of observation, with a strict inspection service, both by river and rail, over freights, passengers, and baggage, will be maintained; and, if it should be deemed best, which it not improbably would be under the circumstance of an existing epidemic, absolute non-intercourse as far as it is practicable to enforce it. This may seem to be very ultra ground, but I think I express the prevailing sentiment of the government and people I have the honor to represent.

In saying this I do not wish to be understood that the Memphis Board of Health does not propose to cooperate with the National and Tennessee State Boards, or that of any sister State, or that I am an advocate or apologist for the arbitrary and oppressive policy known as "shot-gun" quarantine.

Governor Porter, of Memphis, was introduced, and stated that the promise made to the Association a year ago, by Judge Clapp had been carried out. He hoped and promised to continue in the good work until his city should be one of the cleanest and healthiest in the world. He said he was much indebted to the National Board of Health for the good that had been done for the city of Memphis.

Colonel Waring then described to the Association the mode of sewerage adopted at Memphis.

Dr. Bell read a paper by Colonel Moore, sewer commissioner of the city of St. Louis, on Storm-Water and House-Drainage in Sewers.

Colonel Waring spoke on this paper, and said that Colonel Moore had arrived at the same conclusions as those reached by himself through a different channel. The question of cost was the smallest possible matter to be considered in connection with sewerage. The city of Croydon, England, was not a case in point. Memphis was the only city to be considered in regard to the subject. The system of Memphis, in its general features, is applicable to New Orleans. An artificial grade would have to be made in the absence of a natural one. Sewers from all parts of the city could be made to empty into a large one on Rampart Street. The flush tanks would have to be made considerably larger, but with some modification it was perfectly applicable.

In the afternoon, after a recess, Dr. Devron read a paper by Colonel J. M. Keating, of Memphis, on The Value of Sanitation from an Economic Stand-Point, the recapitulation of which we give in the author's own words:—

I have endeavored in the preceding pages to show:—
First, the money value of population.

Second, the effects of epidemics and other preventable diseases in robbing nations of population, and, therefore of productive capital.

Third, the beneficent results of sanitation in preventing or mitigating the effects of epidemic and other preventable diseases; in saving population, and therefore a vast amount of productive capital, thus exemplifying the value of sanitation from an economic stand-point.

Fourth, I have endeavored to express the inestimable services of the National Board of Health in its vigilant watchfulness against the introduction or spread of yellow fever, exemplifying the value of the "ounce of prevention," and the economy exercised by the government in organizing and providing for that body. And in this connection I beg leave to suggest that this Association recommend to the national government the continuance of the National Board of Health with greatly increased powers.

(1.) Because, as an advisory organization sustained by national authority, it has already been of value beyond a thousand times its cost, and because it guarantees protection against the introduction of epidemic diseases for all communities under uniform rules, uniformly enforced.

(2.) Because it guarantees faithful and efficient service, free from local prejudice.

(3.) Because its agents, by their vigilance, unaffected by trade or other considerations, by prompt warning, save the coast cities and those of the interior from the introduction of epidemic diseases.

(4.) In addition to this clerical, sentinel, and advisory work it should have authority to enforce its edicts on all the navigable waters and everywhere within the marine jurisdiction of the United States, so as to control the movements of vessels. It should at certain stations abroad, as well as at home, be empowered to employ scientific experts to observe atmospheric and telluric phenomena, the influence of planetary movement and conjunction, and note the character, and if possible discover the origin, of epidemic diseases. And such agents should not be limited to time, but they should have all the aid in instruments, apparatus, and assistance necessary to thoroughness in research and comprehensiveness and exactness of statement. We have learned already a great deal in regard to the law of storms, and by it have been able to reduce the yearly average of destruction to our commerce on the seas, and so have saved hundreds of millions of dollars' worth of property and hundreds of thousands of valuable lives. By the vigilant enforcement of quarantine by the National Board of Health, by its continued watchfulness to prevent the spread of epidemic diseases to the interior, and by the rigid and exacting enforcement of sanitary laws by city, county, and state authorities—the absolute destruction of all matter injurious to life, so that the soil, air, and water may be rendered pure—the chances for increased length of life may be greatly enhanced. "Knowledge is power." We must know to do. In this case science should inform us, and the law—state and national—ought to be invoked to compel performance of whatever may be essential to perfect safety. The endowment by Count Rumford of the royal institution of London secured to the world the incalculable benefits which followed upon the investigations and discoveries of Sir William Young, Sir Humphrey Davy, Michael Faraday, and John Tyndall. The proper endowment of the National Board of Health with powers and means may result in such an increase of the knowledge of the origin and means of preventing the spread of epidemic and other preventable diseases as will save to the republic hundreds of thousands of lives, and therefore wealth in proportion greater than the appalling losses by epidemics, in part set forth in the above paper.

Colonel Edward Fenner, vice-president of the New Orleans Auxiliary Sanitary Association, read a paper by Professor John Gamgee, of Washington, on The Sanitary Urgency of the Florida Ship Canal, which, in conclusion, expressed the following fantastic sentiment:—

Whilst the French are cutting the Panama canal, with the certainty of extending the yellow-fever area, it is hoped that the people of this country will contract that area, and favor their great inland and international commerce, by securing to this latitude all its natural advantages. Cut the Florida ship canal, and, with common care, New Orleans will enjoy the same immunity from yellow fever as ports on the Atlantic shores. Then the iniquity of fouling Cuba by a constant influx of Spanish soldiers and filthy ships will become more apparent, and lead to measures calculated to benefit the Antilles as much as the gulf ports and the great valley of the Mississippi. Let us rise from a paltry trifling with a gigantic evil, and in a states-

man-like manner insist on the broadest treatment of so great a question. The efforts of the Auxiliary Sanitary Association are worthy of all praise. Let them be seconded by essential coöperation beyond the narrow limits of this city and State.

(To be concluded.)

Recent Literature.

La Syphilis: Son Histoire et son Traitement (méthode anglaise). Par le DR. JAMES TARTENSON. Deuxième édition. Prix 3 francs. Paris: Librairie, J. B. Baillière et fils. 1880.

A small octavo volume of 238 pages, bound in paper, its leaves uncut, its paper coarse but good, its type large and clear and heavily leaded. It is devoted to the praises of the reconstructive treatment of syphilis, based upon the analogies between this disease and variola; it regards the disease as naturally self-limited and tending to spontaneous recovery, and recommends, as far as medicine is concerned, an exclusively symptomatic therapy. It is divided into three parts, which consider respectively the history, the nosography, and the treatment of the disease. The first and second parts are not new, but some of the statistics are of interest. Thus the 50,000 prostitutes of Great Britain, prior to 1864, infected annually about 1,500,000 individuals. In the English army three men out of every ten were infected venereally, and of every 1,000 such 463 had syphilis. Since the "contagious disease acts" of 1864 this proportion has greatly diminished. The Federal army in the recent rebellion gave an average annually of only 67 infected men in 1000; and in every 1000 so infected there were about 360 cases of syphilis. In California, San Francisco, and Texas, syphilis is a veritable scourge, "probably due to the continual relations with Mexicans and Indians." The third part explains the "reconstructive" plan of treatment. This consists of: (1.) Nourishing food, — rare roast meat and wine. (2.) Abstinence from nerve stimulants, alcohol, etc. (3.) Moderate exercise in the open air combined with mental rest and early hours. (4.) Frequent baths of an agreeable temperature. (5.) Very warm clothes. (6.) Continence. In fine, it is the common-sense, hygienic treatment which, with tonics and treatment of symptoms, is common to mercurialists and anti-mercurialists. Some good remarks upon legal and personal prophylaxis conclude the volume.

A Practical Treatise on Nasal Catarrh. By BEVERLY ROBINSON, A. M., M. D. (Paris), etc. New York: William Wood & Co. 1880.

This is one of the best monographs on the subject ever published. After a brief consideration of the anatomy, physiology, and pathology of the nasal region, the author gives a very complete description of the instruments and methods employed in the examination and treatment of it, as well as his own opinion of them.

The surgical treatment of hypertrophied turbinated bones and follicular disease of the naso-pharyngeal space receives proper attention.

The author condemns the universal employment of liquids (by douches and sprays) in the nasal passages, and thinks their use should be restricted to those cases

in which hardened secretion needs to be removed, and thinks vapors and powders preferable for local use.

Much more attention is bestowed upon diathetic conditions than is found in most text-books of the day, and the therapeutic recommendations, both internal and local, are so much the more valuable.

We recommend every practitioner who is called upon to treat this class of cases, and who is almost provoked with his patient for asking something for his "catarrh," to buy Dr. Robinson's book, and see how much there is new in diagnosis, and how much there is to try in the treatment of these cases, with the hope, at least, of relief and oftentimes of permanent cure.

A Treatise on the Diseases of the Eye. By J. SOELBERG WELLS, F. R. C. S., etc. Third American from the third English edition. With copious additions, by CHARLES STEDMAN BULL, A. M., M. D., etc. Philadelphia: Henry C. Lea's Son & Co. 1880.

The present edition of this well-known book is, so far as Mr. Wells's authorship is concerned, the same as the second American edition, published in 1873. All credit, therefore, for any improvement on the latter properly belongs to the American editor, and it is only his work that it is necessary to consider now, since previous editions have already been noticed in these columns. Comparatively few alterations have been made in the original text; but some passages have been omitted, and the order of others changed. On the whole, the changes of this sort have not greatly affected the character of the book. The distinguishing feature of the new edition consists of the numerous additions intended to present recent contributions and discoveries. These refer in large part to points of pathology and treatment, and some of the most important of them relate to the various new growths which start from the different parts of the eye and its adnexa. There is a new section on syphilis of the conjunctiva, and another on lupus, lepra, and other rare diseases of the same membrane.

In connection with sympathetic ophthalmia the recent operation of optico-ciliary neurotomy is briefly discussed, and the just conclusion reached that the operation has not yet had a sufficiently extensive trial to enable us to judge of it fairly.

Under glaucoma an account of the investigations and conclusions of Kuiss, Weber, Schnabel, and Mauthner is given. This is well; but the researches of Brailey on the same subject would seem to have deserved more than the mere mention of his name, misspelled Bailey.

When much is to be altered or added in a book it must usually be impossible to do the work in a thoroughly satisfactory manner, unless considerable portions are rewritten. In spite of this, however, the new edition, as an exponent of the present state of ophthalmic science, is a decided advance.

— An amusing anecdote is going the rounds of the medical press. A Western man visiting the East was informed of the serious illness of his wife. In answer to his inquiries he received the following telegram: "Mrs. B. has had a child. If we can prevent her having another to-day she will do well." The telegraph operator had simply substituted a *d* for the final *l* in chill.

Medical and Surgical Journal.

THURSDAY, DECEMBER 23, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, BOSTON, MASS.

THE BRAIN AND SPINAL CORD IN EXTINCT REPTILES.

At the late meeting of the National Academy of Sciences in New York, Professor O. C. Marsh, of Yale, who occupied the chair during this autumnal session, read a paper on the dimensions of the brain and spinal cord in some extinct reptiles, in the course of which he spoke of the special interest which attached to the stegosaurus, a mammoth reptile, the remains of which he had discovered in Colorado. Five years ago Professor Marsh presented some observations to the academy which indicated that the more remote the period to which any extinct mammal belonged the smaller would the brain be found, and that as time advanced there had been a gradual increase in the size of the brain; this growth being mainly noticeable in the cerebral or intellectual portion. At the spring session, in April last, he showed that in birds and reptiles also the same law held good. Since then he has examined skeletons of the stegosaurus, unearthed in the Rocky Mountains, which, with a body as large as that of an alligator (some of the skeletons measuring thirty feet in length), had a brain cavity no larger than that of a dog. The peculiar characteristic discovered about this reptile, however, is the existence in the sacral portion of the spinal column of an enormous vaulted chamber, like an ordinary brain-box, which is from eight to ten times larger than the brain cavity in the cranium. Professor Marsh examined a number of these skeletons, and found the same thing in all of them, and as, ordinarily, the young animal has a brain proportionately larger than that of the grown animal, so here in the skeleton of the young reptile this peculiar cavity is proportionately larger than in the full-sized skeletons. Professor Marsh has never seen anything analogous to this anomaly in any of the land vertebrates.

This is certainly a very curious discovery, the complete explanation of which it may be quite difficult, if not impossible, to arrive at in our present state of knowledge.

At the last meeting of the American Neurological Association, Dr. J. J. Mason, of Newport, reported a series of observations on animals, which seemed to establish the general law that in all vertebrates the diameters of the nuclei of the cells in the inferior horns in the two enlargements of the spinal cord are proportional to the muscular power of the corresponding extremities; the nucleus of each motor cell apparently increasing in size with the growth of the muscular structure which it serves to innervate. Thus

in the frog, with its powerful posterior extremities, the nuclei of the cells of the lumbar enlargement are found to be much larger than those of the cervical enlargement; while in the gopher turtle the reverse of this is true. Now if such a law held good in regard to the gross size of the enlargements of the spinal cord, it might possibly throw some light upon the subject, since this gigantic extinct reptile is described to be something like an elongated kangaroo in shape; but even then the enormous size of the sacral cavity as compared with that of the cranium would be by no means sufficiently explained, there being no other known extinct or living animal in which such a formation is found to exist.

Professor Marsh, without attempting to arrive at any definite conclusion in regard to the matter, suggested that this curious phenomenon of a "posterior brain-box" might perhaps afford some support to the idea which has been advocated in certain quarters of late, that the whole nervous system, and not the brain alone, may possibly be the seat of the mind. In this connection it may perhaps be remembered that some time ago Dr. Hammond read a paper before the Medical Society of the County of New York on the functions of the spinal cord as a seat of voluntary action, in the course of which he related a number of interesting and suggestive experiments and observations, which seemed, according to the inferences which he deduced from them, to lend a certain amount of weight to such a supposition.

ADULTERATION OF FOODS AND DRUGS.

THE committee composed of Dr. J. S. Billings, of Washington, Prof. C. F. Chandler, of New York city, Ex-Chancellor B. Williamson, of Elizabeth, N. J., A. H. Hardy, Esq., of Boston, and J. A. Gauo, Esq., of Cincinnati, appointed by the National Board of Trade for the purpose of awarding prizes to the amount of one thousand dollars for the best acts accompanied by essays, designed to prevent injurious adulteration, and to regulate the sale of food and drugs without imposing unnecessary burdens upon commerce, have now sent in their report, which is printed in full in the supplement to the December number of *The Sanitary Engineer*.

The three prizes, in the order of their merit, were given to G. W. Wigner, F. C. S., of London, V. N. Davis, of New York city, and to W. H. Newell, M. D., of Jersey City, N. J. In connection with their award the committee submit the following remarks among others:—

(1.) In view of the statements which for the last two or three years have, from time to time, been made with regard to the prevalence in this country of adulterations of food which are dangerous to health and life, and which have created so much agitation in the public mind, it is very gratifying to find that none of the essayists produce any definite or satisfactory evidence as to the wide-spread existence of such dangerous adulterations in this country. The absence of such evidence, in addition to the results recently ob-

tained by several expert chemists in extensive series of analyses of the usual articles of food in this country, which results have been made known to the committee, fully warrants us in declaring that none of our staple articles of food or drink are so commonly adulterated as to be dangerous to health or life. Such dangerous adulterations appear to be mainly in the form of poisonous colors or coloring matters, as, for instance, in confectionery, and even these are rare.

(2.) The question of the adulteration of food, with, perhaps, the exception of milk, should therefore be considered not so much from a sanitary stand-point as from that of commercial interests, as being of the nature of a fraud, in aiding the sale of articles which are not what they are represented to be.

(3.) We are of the opinion that there is much more danger to health and life in this country from adulterated drugs than there is from adulterated food, and that any legislation which is to deal with the one should also deal with the other.

(4.) We do not think that any law upon the adulteration of food and drugs can be made efficient without a properly constituted health authority to supervise its execution. The questions involved are in a high degree technical, and require special training in those charged with administering the law.

MEDICAL NOTES.

— At the last regular monthly meeting of the trustees of the University of Pennsylvania, Dr. William Pepper was placed in nomination for the provostship of that institution. Dr. Pepper now occupies the chair of clinical medicine in the medical department of the university, and is the son of the former professor of theory and practice of medicine in the same institution. He graduated from the academical department of the university in 1862, and from the medical department in 1864.

Since graduating he has been connected with the Philadelphia Infirmary, the Pennsylvania, Philadelphia, and Children's Hospitals, and lecturer on morbid anatomy at the University of Pennsylvania.

He was also at one time editor of the *Philadelphia Medical Times*, and was medical director of the Centennial Exposition.

The nomination lays over for a month till the next regular meeting of the board of trustees, but as there is no nominee opposed to Dr. Pepper, he will probably be elected.

— The Paris correspondent of the *Medical Press and Circular* writes that Dr. Rosolinos, of Athens, read a work before the *Académie de Médecine* on the causes of the first sound of the heart. According to the author, the only cause would be the vibration of the tendinous cords, provoked by the blood which rushes through these cords during the contraction of the ventricle. If the cause of the first sound be, according to M. Bouillaud, due to the flapping of the auriculo-ventricular valves, the same noise ought to be produced,

in part at least, in drawing on the valves by means of these cords. He (Dr. Rosolinos) had several times made this experiment on the hearts of man and the horse, and never had he been able to produce the sound alleged. On the other hand, to confirm his idea of the cause of the first sound, he established artificially a system of tendinous cords in attaching the ends to two sticks diametrically opposed. He then directed, by means of a syringe, a stream of water against the cords, and obtained a sound analogous to the first sound of the heart.

— At the Annual Medical Congress held this year at Rheims, M. Potain read an interesting paper on the efficacy of a milk *régime* in the different forms of heart disease. In secondary diseases of this organ, hypertrophy, or simple dilatation having a renal or gastric origin, he considered it to be peculiarly efficacious; it modifies the state of the kidneys and stomach, giving to these organs more complete rest. But, to derive full benefit from it, it should be absolute and prolonged. M. Leudet corroborated the remarks of M. Potain, and cited the remarkable effects of the milk *régime* on drunkards attacked with cardiac affections.

— Another instance of the extraordinary tolerance of injury which is sometimes observed in the brain is reported from Red Bank, N. J. The patient was a girl, not yet thirteen years of age, who received two gun-shot wounds of the head from a man to whom she had been married. The shooting occurred in the afternoon, and late the same night the physicians in attendance succeeded in extracting one of the bullets, which had entered the base of the skull, to the right of the occipital protuberance, passed through the brain, and came out through the left parietal bone near its upper border. The other ball had entered the right superior maxillary bone just under the right eye, and lodged in the bone, whence it could not be safely extracted. The next day the people of Red Bank, who supposed the child to be at the point of death, were astonished at seeing her ride into the town with her mother, after which they drove to a neighboring village to consult a lawyer. Of course, all this was in spite of medical orders, but although the shooting occurred on the 12th of November, the girl, at last accounts, was not only alive, but no serious symptoms had resulted.

— "Dr. Bezzi," says the *Medical Press and Circular*, "draws attention, in *Lo Spallanzani*, to a sign which is pathognomonic of fracture of the neck of the femur, but which is not generally known. In examining the space between the trochanter and the crista ilii, it will be found that while on the sound side the muscles occupying this region (the tensor vaginae femoris and the gluteus medius) are tense, and offer to the hand a considerable feeling of resistance, they present on the affected side a deep, well-marked depression, a flaccidity and diminution of tension, from displacement upward of their points of insertion."

— At a late meeting of the French Academy of Medicine quite a scene took place between M. Jules Guérin and M. Pasteur. After a lively exchange of compliments the session was hastily adjourned. More

serious consequences were averted by the timely intervention of mutual friends.

— The *Medical Gazette* says that a temperature of 131° F. has been reported from Dublin, and "it is stated that every precaution was taken to prevent imposition." This degree of heat, we should surmise, refers rather to the political than to the pathological situation in Dublin.

NEW YORK.

— Small-pox, diphtheria, and scarlatina are now more prevalent than for some time past, and the Board of Health is using every means in its power to keep these contagious diseases under control. Circulars in regard to the symptoms and management of diphtheria and the precautions to be taken in infected houses have been sent throughout the city, and the vaccinating corps are very actively engaged in the effort to stamp out small-pox. The first cases of the latter are said to have come from Philadelphia, but it has lately appeared in several different sections of the city. The steamer *Italia*, which arrived from Naples on the 13th with a large number of immigrants, had several cases of the disease on board. The vessel was, of course, quarantined, and the health officer, Dr. Smith, after having had the crew and passengers vaccinated, ordered the entire ship's company to be quarantined on Hoffman's Island until the result of the vaccination was apparent. All of them were to be thoroughly washed, and their clothing was to be fumigated for twelve hours.

— In Brooklyn, where diphtheria has been prevalent for so many weeks, the residents will not be satisfied, Superintendent Raymond, of the Board of Health, says, with the investigation regarding the disease at present being conducted by the health committee of the Board of Aldermen, and extraordinary measures will have to be taken in order to suppress the disease. Last week fifty deaths from it were reported to the authorities. A bill will be introduced at the next session of the legislature providing for an extra appropriation for the maintenance of the Brooklyn health department; the board of estimate having reduced the estimate for 1881 from fifty-one thousand dollars, which was asked for, to twenty-two thousand dollars. Unless this is passed one half of the entire number of sanitary inspectors will have to be discharged next month, on account of the lack of funds to pay their salaries.

— Two veterinary surgeons, acting under authority from Health Commissioner Crane, have been making an examination of the cow-stables of Brooklyn, and the other day discovered that ten out of fourteen cows in one stable were suffering from pleuro-pneumonia. The owner was summoned before the Board of Health.

— A very aggravated case of trichinosis was admitted to Bellevue Hospital on the 22d of November, and terminated fatally on the 4th of December. The patient was a young German butcher, and it was discovered that the disease had been caused by eating raw pork. On one occasion Professor Janeway, in whose wards the case occurred, removed a small piece of muscular tissue from the shoulder of the patient,

which a microscopic examination showed to contain no less than thirteen living trichinae. At the autopsy, which attracted a great deal of interest, it was found that all the muscles had become infested with the parasites, their number probably amounting to many millions.

— An infant, about two months old, recently died in this city from tetanus, resulting from the bite of a rat.

— A conference under the auspices of the State Charities Aid Association was held last week, and among the topics for discussion were The Care of Adult Able-Bodied Paupers, The Elevation of the Poor in their Homes, and Hospitals and the Care of the Insane.

— The third of the course of free lectures for the people at the Cooper Institute was given on the 11th of December by Prof. Charles F. Chandler, who selected for his subject The Sanitary Condition of our Summer Resorts. He devoted a considerable portion of it, however, to the need of sanitary reform in the city also, and in the course of his remarks said that most of the better classes of dwellings were absolutely worse, as regards imperfect ventilation, sewage, and drainage, than the tenement houses. Having spoken of the almost universal prevalence of bad plumbing, he said that all pipes should be placed where they could be seen and examined at any time, and not incased in walls, where their imperfections could be successfully hidden. There was a bill now in preparation, he said, which was intended to provide by legislation for the plumbing of the future by requiring that no public or private building should be erected unless plans for the plumbing should be submitted to and approved by the board of health, and that there should be a registration of all plumbers, any one of whom detected in putting in imperfect work should have his name stricken from the list. Another needed reform was in the direction of street cleaning, for which he thought there should be organized a separate department of the city government, on the same basis as the fire and police departments.

— Dr. Antonio de Tejada, a promising physician of this city, died on the 12th of December from the results of a fall the night previous. For some years he had had organic disease of the heart, and a few minutes after retiring he was seized with a suffocating sensation, which caused him to rush to the window and throw up the sash. While leaning out the window, he unfortunately lost his balance, and was precipitated to the basement area, three stories below. He was born in Carthagena, United States of Colombia, in 1845, and was a graduate of Bellevue Hospital Medical College.

CHICAGO.

— Prof. J. D. Fitch, of the Woman's Medical College, has been confined to his house for several weeks with sickness, from which he is improving very slowly.

— An epidemic of diphtheria is now in progress in Chicago. For six weeks past, or more, cases have been very numerous. The death-rate is low for an epidemic of this disease; yet the number of deaths

from it each week has increased so much that the daily newspapers have taken notice of the fact, and quite a feeling of terror among the people in certain quarters has arisen. The commissioner of health has been asked how it is that the reports at his office have shown so few cases, while every physician is talking about the great prevalence of the disease. He has explained the omission on the part of physicians to report cases to his office on the ground of the uncertainty in the minds of many conscientious practitioners as to the diagnosis between true diphtheria and ordinary severe pharyngitis and true croup. Doubtless this is not the true explanation as to the majority of the omissions. The fact is, the law requiring cases of infectious diseases to be reported to the city health department is quite generally ignored, except in the case of small-pox. Scarlet fever cases in vast numbers are treated by all classes of physicians without the department knowing anything about them, notwithstanding the law requires all such cases to be reported and red warning-cards to be posted on the houses. When a case that has not been reported happens to die, it is returned as a death from inflammation of the throat, of Bright's disease, or something else. The neglect to report cases of diphtheria is much greater than is the case with scarlet fever. This is for two reasons: one, that when they are reported the law does not oblige the department to take any public cognizance of the fact, as in the posting warning-cards, or transportation of patients to the pest-house; the other, that, as public and official attention has not emphasized the necessity of reporting this particular disease, this is a good legal duty for physicians to neglect. The law requires a case of diphtheria to be as promptly made known as a case of variola. The very general failure to report them makes the statistics in the city office utterly valueless, and some means of inducing physicians to generally report cases ought to be devised, or the rule should be abolished. It is with this duty very much as it is with that to report births merely for vital statistics; physicians, many of them, think, for one reason or another, that the State has no right to ask this service of them without some compensation. Something needs to be done to make each particular man desire to do and have this service performed.

—The present epidemic has been very fruitful of cases of tracheotomy. One surgeon informs the writer that since October 1st he has operated in eleven cases, most of which were undoubted cases of diphtheria; as evidenced by the presence of large patches of false membrane on the pharynx.

—The question of a training school for nurses in connection with the Cook County Hospital has been much agitated of late, and the commissioners have voted to allow the local organization gotten up to conduct the school, to take charge of a part, or the whole, of the nursing at the hospital. The scheme meets with some opposition on the part of the management, and so far it has not been inaugurated. The medical staff of the institution have not been consulted in the matter.

Miscellany.

PHARYNGITIS RESULTING FROM THE INHALATION OF COAL-OIL GAS.

MR. EDITOR,—Several cases of simple acute pharyngitis have occurred in my practice, caused, apparently, by the inhalation of coal-oil gas escaping from lamp-burners of inferior scientific construction. My attention was first invited to this possibly new annex to the aetiology of throat inflammation during a service as post surgeon in one of the United States Army hospitals on the Western frontier. While making a usual morning visit to the ward I discovered three cases (there being at the time only four patients in the room) of acute pharyngitis, and was promptly informed by one of the sufferers that the fumes from an old coal-oil lamp, kept burning in disobedience to rule by a superstitious nurse, had caused the trouble in his throat, at least.

Shortly after the outbreak of the above-mentioned cases, I had occasion to rest through the night in a small room adjoining that of a very sick patient in the family of one of the officers, where a lamp was left burning, with the wick turned low down. In the morning my throat felt quite sore, and I could distinctly taste coal-oil gas. I have since seen other cases of the same character, and have been informed by a medical friend of two or three cases in his experience resulting from the cause to which I have referred. I should like to hear if other practitioners have met with similar cases from like cause.

Coal oil has, I believe, been tried as a remedy, both external and internal, for pharyngitis (I have never attempted its use, and have no desire to), but its fumes will certainly produce inflammation of the throat.

SOLON B. STONE, M. D.

MALDEN, December 8, 1880.

LONDON LETTER.

WE copy entire the following interesting letter of the London correspondent of the *Louisville Medical News*:—

Among the most lively discussions on hand just now here, as, I suppose, in most other centres of medical activity, is that among the obstetricians and gynaecologists of the opposing vital and mechanical camps. The war broke out in the obstetric section at Cambridge, and a short engagement was fought with much vivacity; but the subsequent skirmishing in the outer fields, where the combatants bivouacked, was still more lively. The fire was opened by Dr. Henry Bennett, the veteran of many a well-fought field. Henry Bennett, as most people know, but as many are apt to forget, has rendered imperishable services to British gynaecology,—to the gynaecological sections and practice, I may say, of all English-speaking people. Fresh from the hospitals of Paris, where he had achieved distinguished success as student, externe and interne, he brought to England the speculum,—that mighty adjuvant to the alleviation of the sufferings of women in inland hospitals. With it he also brought the preliminary knowledge and experience and the varied and well-grounded pathological and clinical knowledge necessary to enable him to gather the large crop which always lies ready for the sickle of those who are the first to use any new

instrument of precision. The results of his labors are embodied in his classical plates, and in *The Inflammation of the Uterus, its Cervix and Appendages, and the Connection of the Inflammatory Condition with other Diseases*. Only the veterans of medicine remember the reception with which he met, and it was hysterically exciting to see him now fighting the battle of the inflammations against the young sempsters of the "mechanical school," as he had formerly to fight it against the discreet family physician who considered the speculum an indecent invention, borrowed from the clinics abounding in French prostitutes and an obscure area, against which the mind of the Anglo-Saxon matron would revolt, choosing death rather than disgrace. Bennett thence was the denunciator of the neglect of chronic inflammatory conditions of the uterus, cervix, or body, as the source of various morbid conditions of the periods of pregnancy, of childbirth, and its results. "How often a practitioner," said he, "is summoned to a patient who is passing through her third or fourth pregnancy, perhaps, with more or less suffering! She has what is technically called a 'laborious pregnancy.' She is suffering from severe sickness, from more or less hæmorrhage, from pseudo-menstruation." After gravely hearing her woes he gravely decides that she is sick, because she is—out of health. The fact is that she has started on her nine months' journey with a coach which is out of order. The wheels creak, the springs break, the machine discharges its passenger, not because of any constitutional defect in the road over which it travels, or in any other diathetic conditions, but because of a local injury or defect which was unnoticed at the first, which has become exaggerated as this little organ, of the size of a hen's egg, has dilated and grown to the size of a pudding bag, containing a baby, a placenta, a pint of water, membranes, *et alia*. The source of mischief has not been discovered, according to Bennett, because it has not been looked for.

As stated in the earliest edition of his work on uterine inflammation, published in 1845, and in subsequent editions published in 1848, 1852, and 1861, he drew attention to an important pathological fact, namely, that chronic inflammation of the cervix or body of the uterus had a powerful and frequent influence in the production of various morbid conditions of the pregnant, parturient, and puerperal periods. During pregnancy it often gave rise to laborious gestation, to obstinate sickness, to hæmorrhage simulating menstruation or otherwise, to abortion, and to the formation of placental tumors or moles. At the time of parturition it often gave rise to rigidity of the cervix, erroneously interpreted by most writers, to lingering, painful labor, to hæmorrhage during labor and after it, and to adherent placenta. During the puerperal period it often gave rise to metritis, to ovaritis, and abscess of the lateral ligaments, to prolonged sanguineous and purulent lochial discharge, to arrested involution, to subsequent displacement in various directions, to retarded menstruation, to a host of morbid local symptoms of various forms, affecting the bladder, the rectum, the anus, and the pelvic viscera in general, and to numerous constitutional sympathetic symptoms more or less marked and severe. These clinical facts had been ascertained (1) by the surgical examination of pregnant women up to the sixth or seventh month of pregnancy, whenever they presented the uterine symptoms referred to; (2) by the surgical examination of women six weeks or two months after delivery, as a rule, when-

ever they had presented any of these morbid conditions during pregnancy, during parturition, or during the puerperal condition.

Hereupon rose up Grailey Hewitt, who has what he calls convictions, and what his friends call "a craze,"—that the beginning and end of uterine disease, diagnosis, and treatment lies in malpositions of the uterus and their rectification by mechanical treatment. Bennett had made the very simple statement that if medical men had not a most groundless fear of examining pregnant women, to see what was the matter, they would, nine times out of ten, find local inflammations, fungoid granulations, and the like, which being treated their patients would cease to vomit, to bleed, and to abort.

Grailey Hewitt has a horror of the word inflammation, and ulceration is to him a non-existent condition which to mention excites him to great wrath. He indulged in comically plain speaking. To talk of inflammation of the cervix as a cause of uterine disturbance or disorder was, he said, to resort to a by-gone and obsolete pathology. Inflammation was a word that ought to be expelled from uterine pathology, and (referring to his recent practices in the "mechanical treatment of uterine affections") he added that in the most recent and advanced treatises on the subject it would be found that it had been carefully eschewed, and no mention could be made of anything so obsolete. Ulceration had been annihilated by searching criticism. "Pressure of a distorted uterus," complete with other mechanical conditions, was the main cause of vomiting in pregnancy.

These opinions, uttered with all the gushing earnestness which is, in Dr. Hewitt's delivery, characteristic of the combination of fanaticism and asthma, for which he is remarkable, caused much amusement and when Dr. Grailey Hewitt went on to speak of "fractional" treatment of the vomiting of pregnancy as the great panacea there was a general titter. Bennett retorted rather hotly, observing that those who purchased uterine hand-books from which the words inflammation and ulceration were so rigidly excluded would perhaps need to supplement them by others in which the existence of a mucous membrane was not denied to the uterus, or the pathology of such a membrane ignored.

Subsequently, Dr. Montrose Fallén, of New York, read a paper on the *Ætiology and Treatment of Lacerations of the Cervix Uteri*, from which it seemed to follow that about twenty-five patients out of every hundred (two hundred out of nine hundred gynecological patients seen in six years in a New York clinic) suffered from laceration of the cervix uteri, which either interfered with the generative functions or produced more or less disease. These lacerations required to be sewn up, sometimes to be pared; but the right thing was to look for them after labor, and within a few days after labor to take the poor woman and sew up these unhappy lacerations. Dr. Marion Sims quite approved of this, but seemed rather doubtful whether it might not be possible to have too much of a good thing, and whether some "unnecessary" sewing up were not practiced at this moment in New York. He intimated, indeed, that he thought it was. This episode has created some alarm in the minds of the uninitiated who are not gynecologists. When Dr. Sims was first here he demonstrated, to the satisfaction of a great many people, and indeed seemed almost to have established it as a canon in practice, that a great number of women are suffering from complaints which require that the cervix uteri shall be lacerated to the extent of complete

division; and we were under the impression that, according to the well-established experience of Marion Sims and his school, about twenty to twenty-five per cent. of the gynecological patients are required to have the cervix uteri divided in order to be restored to health. But if now we find that at least as many are suffering from complaints which require that cracks, cuts, and fissures of the cervix shall be shut up, it seems as if the greater part of the energies of that most fearfully numerous, highly intelligent, and active class of practitioners who, either as specialists or as family doctors, have a claim to the title of gynecologists, will in future be divided between splitting up the cervices of those women who yet possess them entire, or uniting with horsehair or silver wire those which are by nature cracked or fissured. The general moral would then be open to deduction that in respect to the uterus whatever is wrong, and whatever is not ought to be brought about. Between the mechanists, the vitalists, the incisors, and the sutors of the womb, that long-suffering organ is likely to have anything but a quiet time; and it is perhaps hardly surprising that men like Henry Bennett, who are largely responsible for the introduction of this alarming instrument of precision, should, at the close of a long and honorable career, adopt a conservative attitude, having some of his enthusiastic young friends to display less zeal and try a little more cool observation.

THE LAW OF SLANDER AS APPLICABLE TO PHYSICIANS.

We clip this interesting article from the *Canada Lancet*:—

The following extracts are from a paper which appeared in the August number of the *American Law Register* of Philadelphia, from the pen of Mr. W. H. Whittaker, attorney at law: There is, perhaps, no class of professional men more subject to abuse, and, it is believed, more powerless to obtain redress, than physicians. About clergymen the law has thrown its protecting arm, and public opinion has been wont to overlook, if not to pardon, their short-comings. The clergyman is a sort of privileged person, whose character is tried before and whose conduct is regulated by ecclesiastical tribunals, to which the courts of law have relegated it. Lawyers can take care of themselves.

For alleged professional misconduct, incapacity, or ignorance, for rumored unskillful treatment of diseases, physicians who choose may have recourse to legal proceedings. But to cowhide the editor or sue the newspaper for the circulation of a libel may be said, in either case, to be social suicide. The physician must grin and bear it. But if he braves public opinion and asserts his rights, if he endeavors to obtain satisfaction at law, the chances are, to say the least, uncertain. It is doubtful, as the law now stands, what charges of misconduct in a physician in a single instance are actionable. One court (*Camp v. Martin*, 23 Conn. 86) has held that words spoken of a physician, charging him *merely* with ignorance or misconduct in the treatment of a particular case, were not actionable *per se*. The words were, "If Dr. C. had continued to treat her, she would have been in her grave before this time. His treatment of her was rascally." Another court (*Secor v. Harris*, 18 Barb. 425) has adopted a contrary view in a similar case, where the words were, "Dr. S. killed my children. He gave

them teaspoon doses of calomel; it killed them; they died right off, the same day." This last is no doubt a more aggravated case, but it is difficult to understand the grounds upon which the principle was distinguished in the two cases. . . . The question still remains, When do the misrepresentations of a physician's practice in a particular case warrant the presumptions of damage? It is allowed that slanderous words, alleging gross ignorance generally, or such ignorance or thorough incapacity as unfits him for the proper exercise of his profession, are actionable *per se*. To say of a physician, "He is a quack" (*Pukford v. Gutch*, Dorchester Assizes, 1787); or, "He is an empiric and a mountebank" (*Vin. Abr., Act. for Words*, S. a. 12); or, "He is a quack; if he shows you a diploma it is a forgery" (*Moises v. Thorntoon*, 8 Term Rep. 303); or, "He is no doctor; he bought his diploma for \$50" (*Burgold v. Puchta*, 2 Thomp. & C. N. Y. 522); or, "He is a drunken fool and an ass, and never was a scholar" (*Cawdrey v. Tetley*, Godb. 441); or, "He has killed six children in one year" (*Carroll v. White*, 33 Barb. 615); or, "It is a world of blood that he has to answer for in this town through his ignorance. He was the death of J. P. He killed his patient with physic" (*Tully v. Alewin*, 11 Mod. 221); or, "I wonder you had him to attend him. Do you know him? He is not an apothecary; he has not passed any examination. He is a bad character; none of the medical men here will meet him. Several have died that he has attended to, and there have been inquests held upon them" (*Southee v. Denny*, 1 Ex. 196.). In all these cases it has been held that damages are inferable without proof; but to say of a physician, "He is so steady drunk that he cannot get business any more" (1 Ohio 83 n.); or, "He is a two-penny bleeder" (*Foster v. Small*, 3 Whart. 138); or to charge an allopathic physician with having met homœopaths in consultation, and that in the opinion of the profession it was improper to do so and against etiquette, and further that in the opinion of the profession it was disgraceful to meet a homœopathist in consultation (*Clay v. Roberts*, 8 L. T. N. S. 397); or to charge him with adultery not necessarily touching him in his profession without showing that it was connected with his profession (*Ayre v. Craven*, 2 Ad. & E. 2), have been held not actionable *per se*.

While the authorities are generally agreed as to charges of gross ignorance or incapacity in the exercise of the duties of the physician, it is not easy to determine what words are actionable in themselves in special instances. In analogous and even in precisely similar cases, the courts are divided. Where the words were, "He killed my child; it was the saline injection that did it" (*Edsall v. Russell*, 4 M. & G. 1090); or, "He has killed my child by giving it too much calomel" (*Johnson v. Robertson*, 8 Porter, 486), they have been held actionable *per se*. And, on the contrary, the words, "He has killed his patient with physic" (*Poe v. Mondford*, *supra*); or, "In my opinion, the bitters A fixed for B were the cause of his death" (*Jones v. Diver*, 22 Ind. 184); or, "He gave my child too much mercury, or made the medicines wrong through jealousy, because I would not allow him to use his own judgment" (*Edsall v. Russell*, *supra*), have been held not actionable in themselves.

In the examination of these cases, it will be found that where the physician is charged with killing his patient the words have been held actionable on account

of the imputation of crime which they import, and the only case in which such language has been held not actionable is that of *Poe v. Mondford*, of an early origin. The case was rejected by the court in *Secor v. Harris*, on the ground that it was decided at a time when the doctrine of *mitior sensus* prevailed. And as for the case of *Jones v. Diver* the court held that the words were not actionable, because they did not import a charge of murder; that if the defendant had said that "the bitters Dr. D. gave John Smith caused his death; there was enough poison in them to kill ten men," he would have been held guilty of the charge, and the words have then been actionable.

How such words necessarily import the crime of murder or manslaughter, in the absence of any expression of intention, is not quite clear. This was not the ground of the decision in a case of a non-professional, charged with having destroyed the life of a patient by mistaken, but well-meant efforts to save his life (*March v. Davison*, 9 Paige (N. Y.) 580). But even if the words do not import the charge of crime or of gross incapacity generally, there seems to be reason for holding that they should be actionable. It is true, as was said in a former case, that a physician might make a mistake in his treatment of a disease, because it was rather a proof of human imperfection than of culpable ignorance, but the consequences are often as fatal to

him as though the charge was a general one. His mistake might be of "that pardonable kind" which would do him no injury in his profession, but the public might not pardon it. And what if he is not guilty of the charge? What if he has done his duty towards his patient, and has adopted every means in his power, and such as were recognized in the profession as suitable for the case, to restore him to health? The consequences, so far as the public are concerned, are the same, with the additional mental suffering which every man must undergo whose conduct and whose actions are grossly misrepresented before the community at large. True, the law does not deny him remedy if he chooses to take it. Perhaps it would be more fatal to resort to legal proceedings in any case. If he does, he is compelled to show special damages, for none will be inferred. This alone would cause many to hesitate before bringing an action. The difficulty attendant upon proving damages, the length of time intervening between the publication and consequences of a slander, would deter many from the prosecution of the slander.

As the cases now stand, one may bring almost any charge of misconduct against a physician in a particular case, without subjecting himself to an action for damages *per se*, provided it does not come within the category of a statutory crime, or impute to him general incapacity.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 11, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	631	256	25.99	21.08	13.00	6.02	1.11
Philadelphia.....	846,980	314	101	25.16	6.37	5.10	4.14	4.78
Brooklyn.....	566,689	273	106	32.97	16.85	26.01	3.30	7.33
Chicago.....	503,298	194	82	21.13	13.40	12.90	1.55	2.06
St. Louis.....	—	—	—	—	—	—	—	—
Baltimore.....	393,796	159	54	24.53	11.32	9.43	6.92	2.56
Boston.....	363,938	142	55	27.46	13.38	21.83	1.41	2.11
Cincinnati.....	280,000	103	32	12.62	12.62	1.94	1.94	3.88
New Orleans.....	210,000	85	24	15.30	8.24	3.53	1.18	—
District of Columbia.....	180,000	74	25	13.51	13.51	9.46	—	1.35
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	65	30	33.84	12.31	12.31	15.38	3.08
Buffalo.....	155,159	43	14	20.93	6.98	11.63	6.98	2.33
Milwaukee.....	127,000	51	32	25.49	5.88	9.80	13.72	—
Providence.....	104,862	38	10	7.90	21.05	5.26	—	2.63
New Haven.....	63,000	27	11	14.81	3.70	11.11	—	—
Charleston.....	57,000	15	4	—	20.00	—	—	—
Nashville.....	43,543	20	4	15.00	15.00	—	—	5.00
Lowell.....	59,340	27	12	22.22	7.41	11.11	3.70	—
Worcester.....	58,040	31	11	32.26	6.45	3.23	19.35	6.45
Cambridge.....	52,860	13	4	15.38	7.69	15.38	—	—
Fall River.....	48,626	—	—	—	—	—	—	—
Lawrence.....	39,068	15	4	6.67	20.00	6.67	—	—
Lynn.....	38,376	13	3	15.38	30.76	7.69	—	7.69
Springfield.....	33,536	7	2	14.29	14.29	—	—	—
Salem.....	27,347	11	3	18.18	18.18	9.09	—	9.09
New Bedford.....	27,268	10	—	20.00	20.00	10.00	—	—
Somerville.....	24,964	8	1	12.50	25.00	12.50	—	—
Holyoke.....	21,961	9	5	11.11	44.44	—	—	—
Chelsea.....	21,780	7	3	28.57	14.29	—	14.29	—
Taunton.....	21,145	9	2	22.22	11.11	22.22	—	—
Gloucester.....	19,288	13	3	23.08	7.69	23.08	—	—
Haverhill.....	18,478	4	0	25.00	—	—	—	25.00
Newton.....	16,994	11	3	18.18	27.27	18.18	—	—
Newburyport.....	13,470	1	0	—	—	—	—	—
Fitchburg.....	12,270	5	3	20.00	20.00	20.00	—	—
Seventeen Massachusetts towns.....	138,228	58	18	24.14	13.79	15.52	—	5.17

Deaths reported 2486; 917 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 595, consumption 384, lung diseases 359, diphtheria and croup 303, scarlet fever 107, typhoid fever 53, small-pox 34, diarrhoeal diseases 30, malarial fevers 28, whooping-cough 12, cerebro-spinal meningitis 11, erysipelas 11, measles five, Chagres fever one. From *small-pox*, Philadelphia 27, New York seven, Chicago one. From *diarrhoeal diseases*, New York nine, Chicago and Cincinnati four, Baltimore and New Orleans three, Nashville two, Boston, District of Columbia, Pittsburgh, Lowell, and New Bedford one. From *malarial fevers*, New York 13, Brooklyn six, New Orleans five, Chicago, Baltimore, Cincinnati, and New Haven one. From *whooping-cough*, New York six, Baltimore two, Philadelphia, Chicago, Boston, and Holyoke one. From *cerebro-spinal meningitis*, Philadelphia five, New York, Baltimore, New Orleans, Milwaukee, Chelsea, and Brockton one. From *erysipelas*, Brooklyn and Chicago two, Philadelphia, Baltimore, District of Columbia, Lowell, Worcester, Springfield, and Quincy one. From *measles*, Philadelphia two, New York, Boston, and Pittsburgh one. From *Chagres fever*, Baltimore one. Baltimore reports one death from *sunstroke*, and District of Columbia one from *hydrophobia*.

One hundred and sixty-eight cases of diphtheria, 67 of scarlet fever, six of measles, two of typhoid fever, and one of whooping-cough were reported in Brooklyn; small-pox two in Chicago; diphtheria 64, scarlet fever 20, in Boston; scarlet fever 34, diphtheria 15, in Milwaukee; diphtheria six, scarlet fever six, typhoid fever four, whooping-cough two, erysipelas one, croup one, in Providence; diphtheria seven, scarlet fever five, in Cambridge; diphtheria 10, scarlet fever four, in New Bedford; diphtheria three, typhoid fever one, in Somerville.

In 35 cities and towns of Massachusetts, with a population of

1,008,351 (population of the State 1,783,086), the total death-rate for the week was 20.43, against 24.18 and 19.42 for the previous two weeks.

For the week ending November 20th, in — German cities and towns, with an estimated population of 7,770,175, the death-rate was 22.2. Deaths reported 3319; 1550 under five: pulmonary consumption 448, acute diseases of the respiratory organs 281, diphtheria and croup 168, scarlet fever 119, typhoid fever 59, whooping-cough 39, measles and röteln 35, puerperal fever 23, typhus fever (Posen) two, small-pox (Königshütte) one. The death-rates ranged from 9.2 in Metz to 32 in Breslau; Königsberg 20.3; Breslau 32; Munich 29.6; Dresden 23.3; Berlin 21.7; Leipzig 22.8; Hamburg 23.4; Hanover 17; Bremen 15.3; Cologne 23.9; Frankfurt 16.4; Strasburg 23.6.

For the week ending November 27th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 22.1. Deaths reported 3175: acute diseases of the respiratory organs 367, scarlet fever 162, measles 62, fever 55, whooping-cough 45, diarrhoea 45, small-pox (London) 19, diphtheria 17. The death-rates ranged from 17 in Bradford and Portsmouth to 30 in Wolverhampton: Leeds 18; Birmingham and Sheffield 19; London 22; Bristol 24; Manchester 25; Liverpool 29. In Edinburgh 22; Glasgow 25; Dublin 38.

In the 20 chief towns in Switzerland for the weeks ending November 20th and November 27th, population 522,856, there were respectively 26 and 29 deaths from acute diseases of the respiratory organs, diarrhoeal diseases 14 and seven, diphtheria and croup 11 and seven, whooping-cough three and three, small-pox five and two, typhoid fever three and one, scarlet fever two and one, measles one and one.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Dec. 5	29.795	36	43	23	77	100	100	92	W	SE	W	2	18	7	O	R	F	9.50	.39
" 6	29.723	39	46	34	100	52	53	68	W	SW	NW	11	7	7	O	O	O	1.50	.01
" 7	29.824	25	35	18	78	56	57	64	W	W	W	8	18	15	O	F	C	—	—
" 8	30.003	20	31	13	64	43	54	54	W	SW	W	11	13	10	F	O	F	—	—
" 9	30.342	20	28	11	81	36	57	58	W	NW	SW	9	6	3	C	C	C	—	—
" 10	30.309	19	23	14	82	72	85	80	NW	NW	NW	10	15	20	O	O	R	7.15	.21
" 11	30.167	21	32	8	79	43	52	58	NW	NW	SW	13	7	6	C	F	O	—	—
Week.	30.023	26	46	8					W	NW	W							18.55	.61

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., snow; T., threatening.

² Too small to measure.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 11, 1880, TO DECEMBER 17, 1880.

DE LOFFRE, A. A., captain and assistant surgeon. Relieved from duty at camp on White River, Col., and assigned to duty at Fort Wallace, Kansas. S. O. 269, Department of the Missouri, December 8, 1880.

HALL, WILLIAM R., captain and assistant surgeon. Assigned to duty at camp on White River, Col. S. O. 269, C. S., Department of the Missouri.

BENHAM, R. B., first lieutenant and assistant surgeon. Relieved from duty at Fort Snelling, Minn., and assigned to duty at Fort A. Lincoln, D. T. S. O. 165, Department of Dakota, December 8, 1880.

At a meeting of the council of the American Social Science Association, held in New York on the 10th inst., the health department was reorganized with the following list of members: Walter Channing, M. D., Boston, Chairman; E. W. Cushing, M. D., Boston, Secretary; E. M. Hunt, M. D., Metuchen, N. J., W. G. Wylie, M. D., New York, Prof. W. H. Brewer, New Haven, Conn., J. C. Hamilton, M. D., Mobile, Ala., George E.

Waring, Jr., Newport, R. I., Emily Pope, M. D., Boston, J. S. Billings, M. D., Washington, D. C., S. B. St. John, M. D., Hartford, Conn., David Hunt, M. D., Boston, Charles B. White, M. D., New Orleans, La., D. F. Lincoln, M. D., Geneva, N. Y., Mary Putnam Jacobi, M. D., New York, Henry B. Baker, Lansing, Mich., John Rauch, M. D., Springfield, Ill., Elliot C. Clarke, Boston, E. C. Seguin, M. D., New York, Dr. Plummer, San Francisco, Cal., A. N. Blodgett, M. D., Boston, C. F. Wingate, New York, Elisha Harris, M. D., New York.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The fourteenth annual meeting will be held on the first Tuesday of January at four o'clock, P. M. Election of officers and other important business will be in order.

HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Stricture of the Male Urethra: Its Radical Cure. By Fessenden N. Otis, M. D. New York: G. P. Putnam's Sons. 1880.

Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons. Session, Barre, Mass., June, 1880. Philadelphia: J. B. Lippincott & Co. 1880.

Lectures.

THE CARTWRIGHT LECTURES ON THE PHYSIOLOGICAL ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

BY PROFESSOR ROBERTS BARTHOLOW, M. D.

SIXTH AND LAST LECTURE. THE ANTAGONISM BETWEEN REMEDIES AND DISEASES (CONTINUED); ANTAGONISTS TO INFLAMMATION, TO FEVER, TO THE ANIMAL POISONS, HYDROPHOBIA, SYPHILIS, THE DIATHESES AND THE CACHEXIAS.

In commencing, Dr. Bartholow said that it must seem evident to those who had followed his last lecture, or who had given any independent thought and investigation to the subject, that the treatment of local maladies was governed largely by the principle of antagonism. He next inquired if this principle was equally applicable to the treatment of constitutional states, and if there were any proper antagonists to inflammation, to fever, and to the diatheses and the cachexiæ. He then expressed the opinion that it could be shown that such antagonists did exist, and that our most successful therapeutical agents were applied in these maladies in accordance with the principle of antagonism.

He first spoke of the treatment of inflammation. After giving an outline of the successive changes and phenomena observed in the process of inflammation, as understood at the present day, he stated that no single remedy could antagonize the complexus of symptoms belonging to inflammation; but the successive steps in its development might be counteracted by agents having effects opposed to those of the existing phase of the process. The initial change—the preliminary congestion—was often compared to the phenomena which ensued when the cervical sympathetic was divided. Such a comparison was of limited applicability, since in inflammation not only did the vessels dilate, but coincident changes occurred in the blood and in the tissues. It followed, therefore, that the remedies which proved effective at the outset of an inflammation must not only act on the contractility of the vessels, but also on the corpuscular elements of the blood; for, immediately on the occurrence of stasis, the migration of the white corpuscles and the diapedesis of the red began. There were two remedies of special value at this juncture, and three others of secondary importance. Quinia and morphia, if administered together in sufficient quantity, at the right moment, would often suppress a beginning inflammation. Such a statement could not be supported by any positive facts, for it was impossible to decide whether the morbid process would have proceeded beyond the point it had attained. The negative facts had a high degree of importance, for if these remedies failed to accomplish the arrest of the inflammation when applied at the right moment, they were not true antagonists; the antagonism, if exerted, was without influence over the development of the process. There was need of facts on this point, and the profession should on every suitable opportunity try the truth of this supposed antagonism. His own conviction was that it existed, and that failure was due to the inopportune application of the remedies.

A statement of the physiological actions of these agents would indicate the nature of the opposition. Quinia and morphia, if administered together in quantity sufficient to produce their full physiological effects,

would raise the tonus of the arterioles, check the migration of the white corpuscles and the outward diffusion of the albumen, fibrin, and salts, and arrest the smalliform movements and the subsequent multiplication of the white corpuscles outside of the vessels. He had already pointed out that morphia possessed the power to raise the vascular tension and to check all vital processes, and in these actions we had an explanation of its powers in inflammations.

Quinia had a greater range of action. The modern researches had already cleared up all that was uncertain in regard to its physiological effects, and had explained its therapeutical uses, formerly known only through empirical observation. We were chiefly indebted to Professor Binz, of Bonn, he said, for the demonstration of the activity of quinia as a poison to protoplasm and to the minute forms of life. It was to this property that its power to arrest the movements and other vital acts of the white corpuscles was due. The possession of this property might also serve to explain the curative power of quinia in malarial fevers, if the recent discovery of the *bacillus malarie* by Klebs and Tomassi-Crudeli was confirmed by further investigations. In order that quinia might act efficiently as a protoplasmic poison, it was necessary, as might be expected, that it should be given in large doses. Beside this property, quinia lessened the oxidizing function of the blood, as Binz and others had shown. Ranke, and afterwards Kerner and Strassburg, had shown that it also reduced to a remarkable extent—one half—the excretion of urea and uric acid. As urea represented the oxidation of the nitrogenous tissues, it was obvious that quinia checked this oxidation. It follows from these considerations that quinia antagonized the increased heat production, the migration and subsequent multiplication of the white cells, and the proliferation of the protoplasm of the tissues; while morphia, by raising the vascular tonus and lowering the work of the heart, tended to remove the congestion.

The other agents having less important relations to the antagonism of the inflammatory process were digitalis, aconite, and veratrum viride. While these agreed in the power to lower the circulation, they differed in the mode of accomplishing this object. After a consideration of the physiological actions of digitalis, the lecturer arrived at the conclusion that this agent could not be used effectively against the first stage of inflammation. Aconite, he continued, behaved differently from digitalis. It reduced the power of the heart, and although it also lowered arterial tension the amount of blood reaching the inflamed part was reduced by it. Furthermore, it lessened oxidation by diminishing the work of the lungs, and reduced temperature, partly because less blood was distributed when the heart was working under its influence and partly because the supply of oxygen reaching the tissues was less. Aconite was especially indicated when the arterial tension in general was high and hæmatosis was active. Veratrum viride possessed powers and properties very similar to those of aconite; but it more distinctly affected the heart, and less, proportionally, the lungs. Its agency in checking inflammation, like that of aconite, consisted in the lessened amount of blood going to the inflamed part and in the diminution of oxidation which it occasioned. The good effects of digitalis, aconite, and veratrum viride ceased with the occurrence of exudation, for then new conditions arose which they could in no way oppose or remove.

It was necessary that the antagonists to the second stage of inflammation should have the power of preventing or removing the products of inflammation. The remedies antagonizing these new conditions were quinia, chloral, and the alkalies. The utility of quinia, however, ceased when the exudate had actually formed, and chloral was especially adapted to this stage of the inflammation, since it diminished the fever-heat, dissolved exudations, and quieted restlessness and delirium. The possession of these qualities, with the exception of its solvent action on exudations, was nowhere disputed. The experimental evidence on which this power to dissolve exudates rested was conclusive, and the clinical experience, although limited and difficult to define, seemed to favor the belief in its existence. It was obvious, however, that the points of contact between chloral in the blood and the exudation in an inflamed area were small. It must therefore be more efficient when it was administered before the final stasis occurred. The influence of an agent which substituted quiet for delirium was in general favorable to improvement in the local state, and the reduction of abnormal heat was not less useful. Chloral, therefore, unquestionably exerted a favorable influence, if it did not dissolve an exudation. An important contra-indication was not to be overlooked, namely, the paralyzing effect of chloral on a weak heart. When exhibited for the proposed treatment the dose should be small, and not repeated more frequently than once in two hours. The tendency to cardiac depression could, however, be overcome by the joint administration of atropia, which did not lessen the utility of the remedy in the direction for which it was used.

Having spoken of the action of the alkalies in this connection, Dr. Bartholow said that when the exudation was undergoing solution, preparatory to absorption and extension, digitalis and quinia again came into use. The particular objects attained by their employment at this time was to give tone to vessels long in a parietic state, and to favor the transformation and elimination of the inflammatory products. Digitalis was more probably a more serviceable remedy to secure these purposes than quinia. Beside, as a result of the more or less long-continued strain on the heart, its action was irritable, quick, and wanting in energy, and these conditions were removed by digitalis.

Taking up the subject of the treatment of fever in accordance with the doctrine of antagonisms, Dr. Bartholow stated that the means for reducing fever heat which we now possessed operated both on the source of heat production and by means of facilitating its dispersion. In the first group were the medicines which stopped or hindered those processes on which the formation of heat depended, and they were known as antipyretics. Besides the antipyretic medicines proper, there were numerous remedies, the paralyzers especially, which diminished heat production amongst the other toxic phenomena produced by them.

The first of the agents affecting heat production was repose, the cessation of all activity; and the lecturer said that he was the first, or among the first, to show that if rabbits, pigeons, and other small animals were so fettered as to be kept immovable for some time the temperature of their bodies declined. The period of greatest depression in the temperature of man was in the early morning, after the repose of the night. Medicaments that suspended muscular activity caused a reduction of temperature which was quite independ-

ent of any influence which they might exert on heat production. It was obvious, therefore, that conclusions drawn from observations in which this cause of lowered temperature was not accounted for must be defective and misleading.

There were numerous agents which affected heat production; the most important being quinia, salicylic acid, resorcin, chloral, digitalis, aconite, and veratrum viride. Besides these, all the remedies which depressed the functions of respiration and circulation diminished heat production more or less. Having discussed the heat-reducing qualities of quinia, which he said unquestionably held the first position as an antipyretic, the lecturer passed on to salicylic acid, which, he stated, had many analogies with quinia. Like quinia, it did not affect the normal temperature to any considerable extent, but had a powerful effect on the temperature of fever. The first demonstration of this fact by Butt had been since confirmed by numerous observers. The quantity required to produce a decided antipyretic effect was not less than sixty grains, and eighty and even one hundred and twenty grains were sometimes necessary.

Profuse diaphoresis usually occurred, and then the decline of temperature began, about half an hour after the proper quantity had been taken. The duration of the decline was about six hours; and this furnished the measure for its repetition. Although the first reports of the curative power of salicylic acid in malarial diseases, by which it was ranked next to quinia, had not been confirmed, it still maintained its original position as an antipyretic. For the reduction of the temperature in fevers it was not as valuable as quinia; but in acute rheumatism its antipyretic power, which appeared to be the secret of its curative effect in that disease, rendered it highly useful.

A new remedy — *resorcin* — was likely to become of service as an antipyretic and as an antiseptic. Originally obtained from a resin, and because it had some similarity to orcin, its name had been compounded of the two. According to its chemical composition, it was *meta-dihydroxyl-benzol*, and was a phenol. It had no irritant properties, and might be injected subcutaneously without danger of inflammation and abscess. The dose as an antipyretic was about sixty grains, and it produced at first quickened action of the heart, flushing of the face, and a sense of warmth and præcordial oppression. The perspiration began; and with the appearance of the perspiration, which was very profuse, the temperature declined. The antipyretic effect on febrile temperature was very decided, and hence resorcin might come into general use as an antipyretic; the more especially as it did not produce irritation of the parts to which it was applied.

The effect of digitalis on febrile temperature, although decided, was not equal to that exerted by quinia. It was also much slower in action. The systemic effects of digitalis required several hours for their development, and, unfortunately for its use in the treatment of fevers, it caused, if given in any considerable quantity, very great gastro-intestinal disturbance. Furthermore, its administration was to be regarded as ill advised in cases where there was weakness of the heart from granular degeneration of its muscular fibre. The quantity required to effect any considerable reduction of temperature was so great as to excite much gastric irritability, besides being hazardous. When employed as an antipyretic, it should be

used to aid the action of quinia rather than alone. Nevertheless, there were symptoms of the febrile state against which digitalis might be used with signal advantage. In the exanthematous fevers — scarlatina, especially — digitalis antagonized the symptoms most active in bringing about a fatal result, namely, a weak heart, low arterial tension, quick circulation, high temperature, and deficient urinary secretion. Digitalis slowed while it strengthened the heart, raised the tension of the arterial system, and stimulated the kidneys to renewed action. If there were difficulty in retaining it by the stomach, the effects of digitalis might be procured by external application of the moistened leaves.

The antipyretic effects of aconite were less certain and decided than those of digitalis, and it differed from the latter in the character of its action. Aconite lessened the activity of the motor apparatus of the heart, and lowered the arterial tension, and hence it opposed the febrile state associated with rapid, strong, and turbulent action of the heart, and elevated arterial tension. It was against certain symptoms of the febrile condition that aconite was useful, and not as an antipyretic. If, however, high fever were due to sthenic inflammation, it might lower the fever by acting against its source. The same observations were true of veratrum viride. By slowing the heart and diminishing the amount of blood passing into the inflamed area, and by limiting the work done by the lungs (and thus lessening oxidation in general), veratrum viride had an unquestionable influence on the inflammatory process and on the accompanying fever, but it did not have much value purely as an antipyretic.

The most efficient remedy against fevers of the essential group was cold, which acted on heat after its production. Nothing could be more exact than the antagonism of cold and heat. By the application of cold to the body the heat was removed. When the blood was heated above the normal by the fever process, the action of the heart increased correspondingly; when the surface-blood was cooled, presently the whole amount of blood in the body had its temperature lowered, and the heart soon slowed its beat. With the decline of the body heat all those changes due to the elevated temperature ceased. How quickly high heat might kill was seen in heat fever, or sun-stroke, and in hyperpyrexia of some cases of acute rheumatism. How life might be saved under circumstances of imminent danger was witnessed when in the condition of hyperpyrexia the abnormal heat was removed by the application of cold. In the two conditions, often confounded under the term sun-stroke, of heat fever and heat exhaustion, we had an excellent illustration of the principles of antagonism. In heat fever the abnormal temperature was removed by the cold douche, the cold bath, the cold wet-pack, etc., — agents which would prove fatal if applied to the case of heat exhaustion, in which the temperature was rather below than above normal, the heart feeble, and the respiration slow and shallow. The remedies suited to heat exhaustion, — brandy and tincture of opium, — on the other hand, would soon overcome the subject of heat fever. The principle of antagonism, therefore, was the sure guide which was to be followed in these dangerous circumstances.

The third and last division of maladies against which our antagonists might be directed were the animal poisons, hydrophobia, syphilis, the diatheses, and the

cachexias. After alluding again to the treatment of hydrophobia by woorara, Dr. Bartholow spoke of a singular case recently treated by pilocarpin, in which the tragic death in a wild delirium might be explained by accidental moral causes, the spasms having subsided under the action of the remedy. Very striking were the results obtained by Dr. Guttman in the treatment of diphtheria with pilocarpin. Of eighty-one cases of this disease so treated not one died. He assumed that the free salivary discharge caused softening and detachment of the false membrane; but there must have been some other antagonistic influence at work to produce such uniformly good results. It was very desirable to have further experience with the effects of pilocarpin; but it was not to be forgotten that this remedy had a depressing effect on the heart, and might therefore coincide with the poison of diphtheria, which also paralyzed the heart.

Probably no fact was better established in therapeutics than the curative effect of mercury in constitutional syphilis. Some resemblance might be admitted to exist in the constitutional effects of both agents. They manifested a tendency to attack the same tissues and to produce lesions of a parallel, though not of the same, kind. They must therefore exert an antagonism at the point of contact; for no one could pretend, the lecturer thought, that the poison of syphilis and the poison mercury were the same or similar. They were antagonists, and of such decided antipathy that they could not exist together in the same organ or tissue — one must displace the other.

Reviewing, then, the great subjects of the inflammations, fevers, and specific and diathetic maladies, it was perfectly obvious that the only certain method of management was the use of the antagonist remedies. Although he had not applied the principles to individual examples of inflammation, they were equally applicable to all forms. Taking, finally, a comprehensive view of the subject, what were the lessons to be learned? It was obvious, he thought, that the only rule which we applied in therapeutics, as far as any rule was applicable, was the rule or principle of antagonism. As respects the treatment of the state induced by poisons, the antagonism was direct. The effects of the two opposing agents counterbalanced each other, until the natural powers secured the elimination of the poison. When a toxic substance entered the blood, a series of disturbances followed, which was due to its presence, to its action on the tissues for which it had a special affinity, and to the efforts made for its elimination. The antagonist pursued a similar course, but affected the particular tissues for which it had an affinity in an opposite manner, and thus prevented the impairment of function (which would otherwise result in death), until elimination occurred. The effort of the organism was always against the retention of organic poisons, and their elimination was always effected if there were sufficient time and the organs concerned were in a healthy state.

As regards diseases of particular organs, it was found that antagonism was exerted in two ways, — by similarity and by direct antagonism, — and that the opposition took place in respect to the latter mode, at least in the symptoms. The antagonism by similarity was the action of the remedy on the same tissue and with similar objective signs; but the effect on the tissue was opposed, for the disturbance produced by the remedy must necessarily be different in kind from that produced

by the disease. Two actions of an opposed kind on a diseased tissue must necessarily result in two ways, — either the disease was arrested and an equilibrium restored, or one or the other action predominated. If a proper balance of actions was obtained, and the disease was a functional one, a cure must be the result. This was, in fact, an exemplification of the old doctrine of substitution, and a scientific expression of its truth. In the process by direct antagonism the symptoms produced by the disease were opposed by the functional disturbance caused by the remedy. If rightly timed, and the disease were functional in character, the opposition of actions resulted in an equilibrium, which was health.

It was obvious that treatment must be symptomatic; but not in the ordinary sense. To apply physiological antagonists with accuracy a careful analysis of symptoms had to be made, and it was necessary to proceed from the merely objective to the underlying state. It required also an accurate knowledge of physiological therapeutics. To this study, as a distinguished French therapist had lately said, the medical profession should give its unremitting attention. The lecturer proved, however, that there was not that interest in the study of modern therapeutics which was found exhibited in other departments of medical science and art, and said that there was still present the notion that observation and experience should be the sole foundations for the construction of a therapeutical science. The old principle that a remedy which had cured a disease must cure all analogous cases was still the guiding principle with many of the practitioners of our day. Besides the numberless fallacies, the product of individual experience, the observation of analogies was in every way misleading. Whilst decrying the results obtained by experimental study by the physiological method, those who pursued the empirical method were hourly indebted to it for the accurate application of remedial agents. Until Magendie studied strychnia it was merely the mysterious opus poison; until Bernard examined woorara, muscular irritability was the dream of Haller; chloral continued a mere chemical curiosity until the genius of Liebreich demonstrated by one effort its wonderful hypnotic qualities. The results achieved in that way had a remarkable permanence; while the notions of the actions and uses of drugs, engendered by experience and observation, were constantly changing. The deductions of experiment had the same value as the same methods in other experimental sciences. To this end we should direct our best efforts, and rest satisfied with no less certainty than that which belonged to the exact sciences, until we had attained to the degree of perfection that, the disease being given, the remedy followed.

— The following case is reported from Berlin: A woman of twenty-three had been a sufferer from severe pain in the ovary, accompanied with various distressing symptoms, for which she was advised to submit to Battey's operation. She was operated on under chloroform with antiseptic precautions. The operation was followed by extreme tenderness in the lower portion of the abdomen, and by retention of urine. The patient finally recovered, and the cure was complete. It only remains to be told that the operation was a pretended one, a superficial incision alone being made.

Original Articles.

HABITUAL DRUNKENNESS.¹

BY THEODORE W. FISHER, M. D. HARV.

In a paper read before the Massachusetts Medical Society last year (Transactions, 1879) on Insane Drunkards, I gave some authorities for the existence of a disease usually called dipsomania. I will now give a few examples of habitual drunkenness as it is presented to me, as examining physician to the board of directors of public institutions. I prefer to use here the term habitual drunkenness, because it does not raise the question of insanity, and leaves each case to stand alone in its practical bearings to the public. I will give, however, Sir Robert Christison's rules for distinguishing inebriety from insanity, quoted with commendation by J. H. Balfour Browne, Esq.² He says, "When in any particular case the avidity for strong liquors has reached such a height as to cease to be controlled by every plain and powerful moral and religious consideration, to overwhelm the mind in frequent or continued intoxication, and to occasion danger or actual damage to one's affairs or family, or both, it ought to be regarded as disease and treated as insanity."

The stream of simple or common drunkards which passes through our municipal court does not come under my observation. Under the present law, a person may, on a third commitment for drunkenness within twelve months, be sent to Deer Island for one year. The law being recent, but few cases have been sentenced for that term, and it is doubtful if many long commitments can be obtained. It is only when delirium is actually present that the cases are referred to the board of directors, and it then becomes my duty to examine them and determine their destination. The courts show no disposition to otherwise distinguish the morbid from the vicious drunkards. In some cases of persons in fair social standing, having interested relatives or friends, the question of diagnosis is brought up. There may be peculiar circumstances which convince them that the drunkenness is of the morbid variety. Good social position and prospects increase the surprise which this habit creates, and the more intelligent the observers the more clearly do they see this morbid element. Drunkards of this class often have some sense of shame remaining, and are skillful in concealing their habit from public observation. It is usually impossible to convict them of the offense known as common drunkenness without the evidence of some near and dear relative who fully believes in the irresponsible nature of the habit. This is the secret of many a wife's devotion to a drunken husband. A lady recently expressed a common feeling in saying, "He may kill me before I will complain of him as a common drunkard." The dread of family disgrace and the fear of revenge on the part of the inebriate also stand in the way of such commitments. The hope of cure makes the asylum preferred, and I am satisfied from personal experience that this hope is not without reason. I have known quite a number of patients of this class to recover under prolonged detention, remaining permanently cured and extremely grateful for their treatment.

Careful inquiry into the responsibility of drunkards is neglected or avoided by the legislature, by our

¹ Read before the Boston Society for Medical Observation, December 6, 1880.

² Medical Jurisprudence of Insanity, 1876, page 327.

courts, committing magistrates, and prosecuting officers. Too wide a field is opened, and it is feared that the lamp of science is too dim for its exploration. The legal maxim that drunkenness does not exonerate from criminal responsibility is endangered. The law does not discriminate between the vice of drunkenness and the disease into which it develops, and the hands of those who would help the inebriate are paralyzed. When, in exceptional cases, insanity has been established to the satisfaction of a magistrate, some lawyer interferes with threats of an habeas corpus or other legal proceeding. Asylum authorities, in view of the trouble dipsomaniacs give, in their efforts for release and otherwise, fail to perform what would be their duty in other cases of insanity, namely, to hold the patient against every kind of pressure for a reasonable length of time, and to defend the case against writs when possible, thus forcing our courts to test the question of responsibility. A patient committed as a dipsomaniac should not be expected to show his insanity under restraint in hospital. His disease is a mania which cannot manifest itself under the circumstances, except in schemes for his release, any more than a kleptomaniac can steal when under constant supervision. He may show only a degree of intellectual or moral impairment and degeneracy, too common to be conclusive evidence of insanity.

The following are a few cases, out of many, which have come under my observation, given without any attempt at complete description. The difficulties in the way of obtaining full family and personal histories are great. The patient may be too delirious or drunk to give reliable information, his parents may never have been in this country, or the members of his family may have been widely separated. At middle life antenatal influences may have been lost sight of, and the importance of hereditary and constitutional defects are often not appreciated. The relation of sickness or of accidents and injuries to subsequent inebriety is better understood by ignorant people.

CASE I. Male, forty-six years old. His father was an habitual drunkard, and was drunk, as he believes, at the time of his conception. His mother's father was also a drunkard. As the youngest son he was most exposed to the influence of his father's increasing inebriety. An older brother was insane for many years, and died demented in an asylum. Of himself he says he had scarlet fever with aural abscess, and was a queer boy at school, and different from his mates. Memory was always poor. Thinks he made a false step in his marriage, and his family is now broken up. Has drunk by longsprees, with intervals of complete sobriety, for twenty years. Is an artist, and cannot work without stimulation. Thinks his mental powers are never up to a fair standard except when drinking moderately, but he cannot stop at moderate drinking. Continues until sick and exhausted, when occurs a period of depression and sobriety, followed by the necessity for stimulants again. Is often on the verge of suicide when depressed; says he has "thought his hair gray," and has now lost the power of natural thinking. Has had no "solid bar of sleep" between night and day for years. His head feels empty. Can get business when sober, but his judgment is good for nothing without drink, and he cannot work without it. Has had a cough for years, and is no doubt in consumption. When examined was at the City Hospital, and had been drinking for two months previous to admission. Said he wanted to die sober, and on his own urgent request

was committed to the Boston Lunatic Hospital, where he died in about six months, having shown no other signs of insanity than as above stated. His brain showed very marked signs of atrophy.

CASE II. Male, fifty years old, clergyman of the Church of England. Was sentenced to Deer Island for vagrancy, and petitioned the board of directors for leave to lecture in Music Hall on Inebriety as a Disease. He says in his letter, "Is not inebriety or alcoholism considered by the leading English and American physicians the most terrible disease under the sun? Is that law just and right which constitutes the most terrible disease a crime? God knows I speak seriously when I say that the time will soon arrive when the legislature of Massachusetts will be ashamed that it has at this time of the world's day passed such a law."

On examination I found him to be a fine-looking, apparently robust man, with sufficient intelligence to bear out his claim that he was college bred, and had been curate and rector in Wales, England, and Newfoundland, acting chaplain in the American navy, and assistant of the late Rev. E. M. P. Wells. He denied any family tendency to insanity, nervous disease, consumption, or inebriety. Began to drink in college at the age of seventeen, and when rector at Rhyl, a fashionable watering-place, drank wine for dinner daily with clergymen and others, and was a drunkard for a year and a half without knowing it; then remained sober for two years, but relapsed, and has drunk by sprees ever since. Thinks he has acquired the disease, dipsomania. Knows it is a disease, because he has spells of being irritable, restless, and depressed, when he cannot apply himself to work, and after a struggle, generally yields to the strong desire for drink. In his peculiar, flighty, and figurative letter of nine pages to the board, he speaks of voices which advise him to this or that course. He explained this to me by saying that impressions came to him in the way of passing thoughts rather than voices. Some of these thoughts he attributed to Mr. Wells, and some to the devil. Said he had been impressed that if he abstained from drink five years he could then drink moderately, and control the habit. He thought this was a suggestion of the devil, as it was contrary to his belief and experience. He thought inebriates should have a separate place of restraint from criminals and vicious drunkards; believed a physician could distinguish between the latter class and dipsomaniacs. Said he had no desire to lecture except for the purpose of raising money for a suit of clothes and a ticket for the West, where he could begin his struggle against the disease under favorable conditions. I advised in his case putting him on board some vessel bound for a British port.

CASE III. Male, twenty-two years old. No insanity, nervous disease, or phthisis in father's or mother's family. Father drinks occasionally to excess, but his mother has been an habitual drunkard from two years before his birth. Two older children have always been sober. The patient says he began to drink whisky at the age of eight years, at the invitation of a schoolmate, and has drunk to excess since the age of twelve. Has been sent several times to a reform school to control the habit. His last period of detention was ten months, after which he remained sober for several months. Has also been committed to Deer Island for drinking. Now drinks every fortnight for three days only. Is industrious and well behaved

when sober, and is not ugly nor violent when drunk but merely exalted; telling things which have not happened as if true, with considerable detail of circumstance. Forgets all he has said or done afterwards. Pawns his own or the family property for drink when money is withheld. He says his memory and judgment are somewhat impaired, and his self-control very much weakened. He applies for admission to an insane asylum, and is committed to Danvers.

CASE IV. Male, forty-three years old. Father's and mother's grandmother were both said to have been insane. Mother's sister was insane, and the family was consumptive. When about sixteen years old was brought home unconscious from a severe blow on the head, and was delirious for a fortnight. Soon after he began to drink in company with other boys, and took money from his father to supply his wants in this direction. His health also failed, and he was sent to the West on that account, and to get him out of temptation. On his return resumed his drinking habits, and obtained money of his father's customers on various false pretenses. He was in the habit of calling the store his, and represented his father as a man of wealth. Was restless, irritable, and once or twice violent. He is said to have had a fit some time after the accident. At the age of twenty he was sent to the McLean asylum on my certificate and by his own request. He attributed his habit of drinking to the nervous condition succeeding the fall. He was at the asylum three months, and Dr. Jelly became convinced of his unsound mental condition. A few weeks after his discharge he was sent to the Taunton hospital on the certificate of Drs. Fisher and Youngman. He remained nine months, and at his discharge Dr. Godding was satisfied of his mental weakness, and expected his speedy return. After two months was recommitted on the certificates of Drs. Jelly and Taylor, the latter being physician to the East Cambridge jail, where he was detained. Remained seven months in Taunton this time, when he escaped. Was sent, by my advice, on a whaling voyage. Deserted the ship at San Domingo after six months' service, where he had a severe attack of fever, followed by hæmoptysis. Says he had less desire for stimulants there than in Boston. On his return to the latter city had a spree lasting several weeks, in which he raised money, as he had often done before, on checks with false signatures, but without any attempt to imitate the handwriting of persons whose names were used. Neither did he try to avoid arrest, but paid his bills for liquor and clothing with small checks. Was arrested, and on examination at the jail said he was not visibly drunk when the checks were made, or he could not have passed them. Said he could drink day and night without showing it, but was able to go about, acting more or less automatically, and could not recollect his acts afterwards. When out of money, in this condition, is in the habit of writing checks, and he believes he will continue to drink and forge checks as often as he is at large in the city of Boston. Feels perfectly helpless in regard to his conduct, and wants to be restrained. Thinks, as he has broken the law, he should be punished, and prefers a definite sentence to an indefinite term of residence in an asylum. Was committed to the house of correction for one year. His health improved under restraint, and since his discharge he has expressed some hope of keeping sober.

CASE V. Male, thirty-five years old. His father:

died of general paralysis, and his father's mother is insane. Has been intemperate and licentious for ten years or more. For three or four years has drank almost continuously, but is seldom intoxicated, and is able to work more or less of the time at his trade as locksmith with his brothers. Has had much of the time for several years delusions of plots to injure his business or to kill him on the part of his brothers, the neighboring tradesmen, and the police. Mentions half a dozen respectable people who are in collusion to harm him, including the present superintendent of police. Says they insult him constantly, and often threaten to kill him. Thinks people passing him in the street insult him who have not spoken to him. When seen was under arrest for a violent assault on his brother, and under the excitement of this occurrence expressed delusions which he afterwards modified or concealed. He abused his imaginary enemies in the vilest terms, giving the names of officers who had threatened to shoot him, and said they "put up jobs" on him by getting boys to ring his door-bell and run away. When irritated, his brother says, he insults customers, and has often given way to acts of violence. Twice threw a heavy grindstone down-stairs after his brother, and once chased his brother's wife with a knife. A certificate was signed in his case, but on the statement of a comrade that he was all right when sober commitment was refused. He was then sent to Deer Island for thirty days for simple drunkenness. He there expressed the same delusions, but in a more general and guarded manner. This was not a case of delirium tremens.

CASE VI. Female, forty-two years old. Her mother was insane before her birth, and is now in the Augusta hospital for recurrent insanity. An aunt on her father's side died in the same hospital, and this aunt's son has been insane. One of her brothers was insane for three years, the rest of seven brothers and sisters being neither insane nor intemperate. Began herself to drink at the age of twenty-three, wine being kept in the house. Then had sprees for several years, with intervals of sobriety, but now drinks continuously whenever she can get money. Says she has lost all self-control in reference to drink, and does not care whether she stops or not. Has lost her moral sense in great measure. Has had delirium tremens and been arrested by the police. Is abusive, violent, and destructive when drunk, and is always worse at the menstrual period. Her husband and sisters want her committed to an asylum, but I decline to certify.

CASE VII. Male, forty years old. No insanity or phthisis in family, but his father was intemperate, and died of asthma, he says. Has never had any severe sickness or injury, except inflammation of the bowels. Has drank by sprees for seven or eight years, and lost money and been out of work on account of his habit much of the time. Has been depressed in consequence, and was three weeks in Taunton Hospital four years ago. Had not been drinking just at that time. Has never had false hearing, but suicidal impulses formerly troubled him. Never had delirium tremens. Sprees now occur about once in three months. For six years has frequently had an impulse to kill his little daughter, of whom he is very fond. This idea does not come from drinking, he thinks, as drink stops it for the time. Applies for admission to Danvers Hospital, for fear he shall yield to this impulse, and is committed.

CASE VIII. Male, thirty-two years of age. His father was very intemperate for many years, and his father's sister was a periodical drinker. No insanity in the family known, and the rest of five children are temperate. At the age of eight years had a blow on the head, causing coma and delirium for a day or two. Was a good scholar, but had a fit at the age of fifteen, with spasms and unconsciousness. Subsequently began to drink to excess. Often had dizziness and fear of falling, not attributable, as he thinks, to drink. Now drinks by sprints, and says his head feels so badly that he is impelled to drink for relief. Can only be prevented from drinking by being locked up at home. Has had delirium tremens once. Applies for commitment to Danvers Hospital, and is allowed to go.

CASE IX. Male, forty-three years of age. No insanity, consumption, or inebriety in his near ancestry. His father died of paralysis in old age. Of eight brothers and two sisters, one brother died of acute mania in an asylum, one of paralysis, one of chronic diarrhoea, one of some unknown disease. Four of the brothers have been intemperate. Has himself been a successful business man, and did not drink to great excess until after business losses, five years ago. Had previously drank after business hours in company, but since has drank almost continuously without getting visibly drunk. Tells the most extravagant stories about business when drinking, imposing on those unacquainted with him by his sober manner. A year ago was sent to the Boston Lunatic Hospital at his own request, as he feared paralysis. Said he alternated between depression and excitement, and occasionally had thoughts of suicide when depressed. Remained at the asylum two months, and after his discharge kept from excessive drinking nearly six months, and was able to do some business on commission. At the Narragansett disaster was in the water two and a half hours, and was sick for several weeks afterwards with acute rheumatism, to which he is subject. Has been unable to resist drinking since, and wants to go to an asylum. Is told he can be sent to the almshouse at Rainsford Island, but declines to go.

CASE X. Male, twenty-three years old. No insanity or consumption in his near ancestry. His father was a periodical drunkard before he was born, but left off drinking for ten years at one time. Of three brothers and one sister, the oldest brother and sister are temperate, while a younger brother is a periodical drunkard, and has been sent to Deer Island recently with delirium tremens. The patient had been nervous and troubled with emissions, palpitation, night terrors, and sleeplessness. He is of an extremely neurotic temperament, and was first referred to me by Dr. C. E. Stedman as a candidate for asylum treatment. I put the patient off at first, but on a second application signed a certificate, and he was sent to Danvers Asylum. Here, I was informed, he once had symptoms resembling delirium tremens after drinking freely of sweet cider. He remained at Danvers thirteen months, and having relapsed after three months applied for readmission. I refused to certify, when he stole a horse and wagon and drove out to the asylum from Boston, and was taken in and subsequently re-committed. Remained this time seven months, and had worked well for six months with his brother, who had charge of a green-house. Meanwhile this brother had delirium tremens, and went to Deer Island. On his discharge he came with my patient, who had re-

lapsed, and wanted to go to Danvers again. His request was refused, and he was given a permit for Deer Island. Having missed the boat, he went to the City Hospital, and was admitted, as he seemed to be on the verge of delirium tremens. He was rational the next morning.

CASE XI. Male, forty-two years old. His father was an habitual drunkard before his birth and all his life afterwards. No insanity in family known. Of four brothers, two were temperate; one was reported as a "natural" or "constitutional thief," and served many years in state's-prison for larceny. Has also been a temperance lecturer, and is presumed to have been his own "terrible example." The patient himself has drank by sprints since the age of puberty, and is now a chronic dipsomaniac. From a flourishing baker he has become a hanger-on of bar-rooms, doing menial service for drink. Drinks tinctures and even strong soap-suds when he cannot get liquor. At the time of examination was incoherent and good-naturedly garrulous, and was supposed to be drunk. He said his bed was made of "clubs, whisky, *boutonnière*, rum, etc.," and his blanket of "rye whisky, sherry wine, jockey-club," etc.; said "black cats were throwing charcoal at him all night." Was sent to Deer Island, with his own consent, for observation. His condition remaining unchanged for a week or more, he was committed to the Danvers Asylum.

CASE XII. Male, forty years old. Insanity had occurred in his mother's family. Was himself insane, and in an asylum four months, fifteen years ago, after a sunstroke. Is believed to have been perfectly temperate at that time. Recovered entirely, and established a large book-publishing business, by which he made a small fortune. Was an upright, intelligent, active business man, with good social connections and a pleasant family of wife and children. He had a cultivated taste for good books and pictures, with a city house and a cottage in the country. Seven or eight years ago, began to lose money by failure of business connections after the great fire in Boston, and gradually lost his whole property. Was led by mental strain and discouragement to drink, and very soon found he had no control over the habit, and became in a short time a periodical drunkard. Never drank in public, and was not known by his neighbors to be intemperate; took liquor home with him in large quantities, and drank himself crazy drunk as fast as possible. In this condition was violent, dangerous, and destructive, threatening his wife's life and his own repeatedly, and often dangerously assaulting her. In the intervals he was perfectly sober, attended faithfully to business, was gentlemanly in his deportment, and as his wife expressed it, "a model husband and father."

In his last attack he was visited by Drs. Nichols, Foley, Clarke, Blake, and Fisher, each of whom thought he should be sent to an insane asylum without delay, but no one feels willing, in view of the legal status of such patients, to certify. When I saw him he was in a state of maniacal excitement without any definite delusion at the time of the visit, and was in a dangerous and explosive condition; but as it was the result, apparently, of a quart or two of brandy taken daily, for some time, I could only state the difficulties in the way of commitment to an asylum. As he had never been convicted of a first and second offense of drunkenness he could not have been sentenced for a year to Deer Island. No one but his

wife could have given sufficient evidence to convict him of simple drunkenness even, and she would have preferred to take her chances of violence at his hands. In a few days he became weaker, and, a distant male relative having been summoned, his liquor was taken away. He also grew more delirious, and in this state I advised his removal by force to the Washington Home, where he remained seven days without becoming rational. At the end of that time he was entirely oblivious to his surroundings, and, though at times unmanageable, was quite exhausted. He refused food when offered him, because his family was dead and he was dead, and it was no use giving food to a dead man. He having been without liquor for a week, it was possible to certify that his condition was not the immediate result of drink, and he was sent to Danvers on the certificates of Dr. Day and myself.

(To be concluded.)

OPTIC NEURITIS AFTER MEASLES.¹

BY O. F. WADSWORTH, M. D.

THE occurrence of neuritis optici as a sequela of measles appears to have been so rarely observed, at least so rarely reported, that it may be worth while to put on record the three following cases. The neuritis can, indeed, hardly be regarded as a direct consequence of the disease of measles itself; it is rather to be looked upon as the result of a complicating meningitis. In two of the cases the evidence of the latter disease is patent enough; in the third, however, almost the only sign of cerebral affection is given by the ocular symptoms, and on this account especially is it of interest.

J. H. R., aged four, was brought to me at the Massachusetts General Hospital, July 18, 1878, on account of loss of sight, first noticed the day before. He was the second of four healthy children, of healthy parents. The previous winter and spring he had had, occasionally, flushed face and headache, with sometimes vomiting. Aside from this he was well and strong. About the 1st of June his brother, and soon after his sister, had measles. Some two weeks after the brother was attacked this boy began to ail. For several days he was heavy, complained of headache, vomited, had epistaxis and cough; then a scanty eruption appeared. He was lightly sick some four days longer.

The next fortnight he was about, and apparently as well as ever, but during the third week was in bed, face flushed, complaining constantly of headache, twitching in his sleep and starting awake suddenly, saying it hurt him when touched, and vomiting food.

Once more he was up and about, seeming well. On the fourth day, however, when he came in to dinner, after running about playing with a kite, his mother observed that he groped for his plate on the table. The plate was moved to another part of the table, and the boy had great difficulty to find it. During the following night he was very restless, in the morning eat nothing, and was brought to the hospital.

He was in very good flesh, had fair color, and, except his evident blindness, showed no sign of sickness. The pupils were large, and reacted but little to light. Only the movement of the hand at a short distance could be distinguished with either eye. In each eye the disc was prominent, with striated, grayish surface,

the swelling hiding the outline of the disc, but not extending far beyond its border. The central vessels were visible on the surface of the swollen disc, and curved sharply down its sides; the veins a little enlarged. No hæmorrhages. Remainder of fundus normal. No urine could then be obtained.

Two nights afterwards there was great restlessness and unwillingness to be touched; in the morning headache and vomiting, and soon he became semi-comatose. Throughout the next day there was slight twitching of hands, feet, and mouth, and for several hours in the following night violent screaming. From this time he improved slowly, and after a fortnight seemed strong, had good appetite, gained flesh rapidly, and was bright and talkative.

On August 17th he was ruddy, stout, and apparently in excellent condition. Vision was entirely wanting; pupils insensitive to light. Swelling of the discs had much diminished, and the grayish striation was giving place to paleness. The outline of the discs was readily seen, though veiled. The arteries were somewhat small. Otherwise fundus normal. Urine normal.

During the next month his general health was very good, and he still gained in weight; but he had, both waking and sleeping, occasional attacks of sudden fright, shrieking, with gestures of terror, and saying he saw pigs, dogs, and horses, becoming quiet as soon as touched by his parents. September 21st the discs had become sharply defined, white; the main vessels were rather small. Blindness continued. For six weeks longer there were a few attacks of fright, then they ceased. Only once during this time did he complain of headache. After the weather became cool, and he was confined to the house, he lost his ruddy color, but not his flesh, and had sometimes nausea and vomiting in the morning. Urine examined again in November was normal; examination of chest and abdomen negative. Toward the end of January, 1879, when he was last seen, the discs were a little more gray. There was no other change.

H. G., twelve years old, was seen in consultation with Dr. H. E. Marion (to whom I am indebted for notes of the case) June 21, 1879. He was one of two children, a sister, younger, having partial paralysis of lower extremities since early infancy. Parents healthy, and in comfortable circumstances. The patient had had no serious illness till the present one. About Christmas, 1878, he had measles, from which he was supposed to have made a good recovery; but a month later, the last of January, 1879, he began to complain of occipital headaches, which were followed by vomiting and sleep. In March the headaches became more frequent, and he had often pain in different parts of the body; he began to lose flesh, was disturbed by noise, and would start out of his sleep as if frightened. This condition continued, and early in June it was noticed that he did not see objects readily. Dr. Marion saw him first on June 19th, and found vision much impaired and field narrowed; poor appetite, some constipation, urine normal; physical examination of lungs and heart negative.

Two days later I saw him. The pupils were rather large, reacted to light and accommodation. V: R = $\frac{1}{3}$, L = $\frac{1}{6}$. The outer half of each field of vision was wanting; the inner half was contracted, particularly in the upper part; in the R a defect of nearly the whole upper and inner quadrant. In both eyes the discs were swollen, opaque, the sides of the swelling rather

¹ Read before the American Ophthalmological Society.

steep, the opacity extending some little distance into the retina and shading off gradually. Numerous fine vessels on the discs; veins moderately enlarged and winding; both veins and arteries hidden here and there. Opacity a little more marked in L. Near to the outer side of the swelling were several small, whitish spots in R; a few similar spots in L. Abnormal reflex in the macular region. No hæmorrhages. The boy's walk was a little unsteady, as he said, because he could not see. No staggering with eyes shut and feet together. Dr. Marion and I agreed in the diagnosis of meningitis.

For a few weeks headaches were less frequent; his appetite became good, and he began to gain flesh. Then he had severe intermittent pain in the temples and darting pains about the head, with frequent vomiting. Towards the end of July he had a slight epileptic attack, followed by severe pain in the distribution of the left facial nerve. Noise disturbed him much. The first part of August, Dr. Williams and Dr. Minot saw him, and agreed with the diagnosis already made. Sight failed, till he could not distinguish light from darkness. August 19th there was a circumscribed swelling over the anterior inferior angle of the right parietal bone, which yielded to pressure, and resumed its shape when pressure was removed. A week later a similar swelling on the left side. He had some hallucinations of sight. Hearing became defective. At times there was severe pain in the left mastoid region; later in cartilage of left ear.

By September 9th, his head had increased in size by measurement. He had occasional convulsive movements; the scalp was tender. By the first of October he could scarcely walk alone; at times much fever; almost complete paralysis of rectum; much difficulty in passing urine; appetite good, and he slept well.

From the last part of October till December 24th, when he died, he was under the care of a Spiritualist in another city. Dr. Marion first learned of his death shortly before the funeral, — too late to obtain an autopsy.

M. J. A., a girl, three and one half years of age, was sent to me by Dr. Howe, of Lawrence, April 29, 1880. Family history good; she fairly healthy. The last days of March she began to ail; the eruption of measles appeared on the seventh day. For two or three days before the eruption appeared there was high pulse and temperature, and some delirium at night. During the eruption she complained of headache for two or three days, not afterward. While the eruption was fading, marked convergent strabismus appeared, said by the parents to have been at first of both eyes, but more of the right. Shortly after the strabismus was noticed the mother observed that the child, when trying to pick up an object from the floor, would estimate its position wrongly. For a week or two longer there was anorexia, constipation, and cough; afterward she seemed as well as usual.

During the last few days before I saw her the strabismus had decidedly decreased. I found a moderate convergence of the right eye, and at least no marked deficiency of excursion. Vision could not be determined with any accuracy. The discs were blurred, striated, little swollen; the opacity was enough to hide the outline of the choroidal opening, even with the inverted image, but did not hide the central vessels. It extended over a space of some 2-2½ diameters of the disc. Central vessels of normal size. No hæmorrhages.

The child continued well; slept well; gained in weight. When I saw her again, July 10th, her eyes were straight, and, the father said, had been so for six weeks. Every sign of neuritis had vanished; the discs were defined, bright, and of normal appearance. So far as could be determined in so young a child vision was not affected.

The complication of measles by meningitis does not appear to be a frequent one; much more infrequent is it to have meningitis come on after a period of apparently normal convalescence from measles. Given the meningitis, and the fact of neuritis has in it, of course, nothing peculiar.

In the first case the symptoms immediately preceding the outbreak of the eruption were hardly enough to have excited suspicion of serious cerebral disturbance; yet it may be that a meningitis existed from the first, becoming latent for a time, then bursting into activity, and again, after a second period of quiet, starting up with more violence than ever.

In the second case there is no history of cerebral symptoms with the attack of measles; only after a period of uninterrupted convalescence did such symptoms show themselves. The question might indeed be raised whether the meningitis was, properly speaking, a sequela of measles, and not rather an independent affection.

If the case stood alone, one might scarcely feel justified in asserting any intimate relation between the two diseases. Taken in connection with other cases, however, remembering that in the first case reported there was a fortnight of apparent good health after not very marked head symptoms, that this patient had been sick for several months before his history was obtained, and that very possibly some data may have been omitted by the parents, the assumption of direct connection between the measles and the meningitis does not seem unjustified.

The third case is chiefly remarkable for the almost total absence of symptoms of meningitis, except those to be observed in the eyes. But the occurrence of paralysis of the abducens, together with double optic neuritis, can hardly admit of a doubt as to this diagnosis.

Hospital Practice and Clinical Memoranda.

MASSACHUSETTS GENERAL HOSPITAL.

CASES OF TRACHEOTOMY PERFORMED BY DR. J. C. WARREN.

[REPORTED BY C. P. STRONG.]

CASE I. M. G., three years old, had been ill with diphtheria three weeks before entering the hospital, but for some time had been convalescent. Severe dyspnoea followed an imprudent exposure, for which tracheotomy was performed. Complete relief was obtained by the operation. A coarse, moist sponge was loosely tied over the tube by a gauze cravat. The inner tube was removed hourly and the outer tube daily. A disk of oil silk was kept between the tube and skin as a protection to the wound. The external tube was out a longer interval each day; but it was two weeks before it could be entirely dispensed with. A tin trumpet facilitated the return of air through the glottis.

CASE II. J. F., eighteen months old, as in other case, was convalescent from an attack of diphtheria of a week's duration, when he was thoughtlessly taken out-of-doors by his parents. During twenty-four hours previous to his entrance, the dyspnoea had been steadily increasing. Although statistics show that the recovery from this operation in children under two years of age hardly ever occurs, tracheotomy was performed to prevent death from suffocation, which was then imminent. Great relief followed, and he took nourishment greedily the next morning. Paroxysms of coughing set in and became more and more severe. A cast of the trachea one and one fourth inches in length was at one time coughed up. The disease continued to extend downwards. The neck became greatly swollen and oedematous, and the child died fifty hours after the operation.

CASE III. G. P., six years old, while eating some dry chestnuts, sucked one into the trachea. There were occasional paroxysms of cough, with dyspnoea, followed by intervals of complete relief. The only noticeable symptom at the time of her entrance to the hospital was a slight hoarseness and roughness of breathing. On examination with mirror by Dr. Langmaid a foreign body was seen lying beneath vocal cords. Ether having been administered, the first incisions were but completed when respiration ceased; the trachea was immediately opened, and at the most dependent portion of the wound a foreign body was observed, which, on an attempt being made to seize it, disappeared from view. On its becoming dislodged the breathing returned. It was finally coughed back to the opening, where it became wedged again, and was this time grasped by a pair of tracheal forceps and removed. Its average diameter was about one centimeter. A tube was left in, as it was thought possible that other fragments might appear subsequently, and was removed on the third day. A slight bronchitis complicated the convalescence, which was otherwise uninterrupted. The voice, however, continued to remain a hoarse whisper.

On examination since by Dr. Langmaid with the laryngoscope, a grayish-white glistening tumor, extending from the region of the cricoid, was seen occupying one third of the diameter of the trachea. This tumor had grown steadily smaller, and the last report, made some two months since patient left the hospital, states that the voice and the respiration have greatly improved, although the lumen of the trachea is somewhat narrowed by the growth. It is probably a granulation mass springing from the internal surface of the wound.

CASE IV. A. D., four years old, had been in the hospital five weeks with fractured femur, which had become stiff. On September 24th she caught a slight cold, the symptoms of which grew worse, until those of diphtheria became developed. There was not much membrane on the pharynx; but the dyspnoea showed a considerable formation in the larynx. The patient was isolated; a powerful spray of glycerine and chlorate potash was thrown on to the pharynx with a Lister steamer; supporting and stimulating diet ordered. Tracheotomy was performed the next day, with relief to breathing, which continued good until death, twenty-four hours later.

There was no diphtheria at the time in the hospital. The patient's bed was near an anteroom containing sink, water-closet, etc., the condition of which is such that a renovation has been for some time contemplated.

A child in the room overhead, in a bed bearing similar relations to a similar anteroom, broke out the same day with scarlet fever. Ether was given in this case, as in all the others, before opening the trachea. In those cases of diphtheria in which Dr. Warren has performed the operation with subsequent recovery of the patient, including two outside the hospital, the invasion of the larynx had developed slowly, the disease being much less acute than in the cases which have proved fatal in his experience.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

NOVEMBER 27th, 1880. The meeting was called to order by DR. HODGES at 7.40, sixty-four members present.

DR. B. JOY JEFFRIES reported a case of removal of a piece of iron from the eye by the electro-magnet. He briefly spoke of two cases, previously reported, where the simple magnet had been used, and four where the electro-magnet was employed. These were where the foreign body was in the aqueous or vitreous chamber, but not bedded in any tough tissue of the eye. Without such a powerful magnet as he was enabled to use with Dr. Bradford's apparatus the piece of iron could not have been drawn out from the cornea. Hence the value of this form of the electro-magnet. No case of removal from the cornea has been hitherto reported.

September 29th, 1880, a man came to the Massachusetts Charitable Eye and Ear Infirmary with a piece of iron deep in the cornea at the outer angle, projecting into the anterior chamber just behind the sclero-corneal juncture. There was a cut towards the middle of the cornea through which the metal might have passed. There also was no distinct tract through the cornea over the foreign body. As the metal could not be approached on the outer side in the blood-bearing tissue, it was decided to cut down upon it on the corneal side, and attempt to keep it in place or from falling into the anterior chamber by the constant near presence of the strong electro-magnet. On the approach of the magnet the foreign body was seen to move, and by applying it against the cornea the metal was drawn to it and removed. As it seems quite impossible that the piece, although thin, could have been pulled through the cornea by the magnet (capable of lifting sixteen ounces), there must have been a track of original incision by the foreign body through which it was extracted.

DR. H. W. BRADFORD exhibited and explained the method of construction and the testing of electro-magnets, and showed those that had been used in the three cases spoken of by Dr. Jeffries, as occurring during the past year at the infirmary. He showed that with the improved electro-magnet, weighing but four ounces, a weight of more than twenty ounces was easily sustained at a distance of one inch from the end of the core of the magnet, by use of a single bichromate-of-potash cell.

DR. C. H. WILLIAMS said that Dr. Jeffries' case was the first one where a foreign body imbedded in the cornea had been successfully withdrawn by means of a

magnet. In the reported cases the metal had usually been either in the vitreous or aqueous. McKeon had suggested that instead of having a flat or rounded end there should be two projecting guards, to prevent the foreign body from being detached from the magnet by having the wound close on it as it was being drawn through the sclera. This suggestion might be carried out by having two fine strips of brass or other non-magnetic substance attached to the sides of the magnet, so as to project slightly beyond the end.

Dr. Williams spoke of a case he had had at the infirmary last summer. The patient presented himself with a small wound near the centre of the cornea, and said the eye had been hit by a chip of iron. A spindle-shaped piece of iron was found stretching across the anterior chamber, one end being held in the corneal wound and the other being planted in the iris. A wound was made at the periphery of the cornea, in the hopes of being able to seize the foreign body with an iridectomy forceps near its bearing on the iris, and thus extract it; however, when the forceps were inserted and the aqueous escaped, the iris moved sufficiently to displace the foreign body, which fell across the pupil, and as attempts were made to grasp it, it began to slide behind the iris, out of sight and reach. As the patient was under ether no further attempt was made to reach the iron; but Dr. Bradford, in a few minutes, arranged his electro-magnet, by means of which the iron was drawn forward through the pupil against the under surface of the cornea, where it was seized and extracted.

In a number of the reported cases a magnet has been of use in removing chips of iron or steel from the interior of the eye, with but very slight damage to the eye, which retained a very good amount of sight afterward.

Magnetized forceps have been tried, but are not sufficiently powerful; with any electro-magnet it is well to have points of several different shapes and sizes.

DR. BRADFORD said that a cylinder would give the greatest power, and that a straight point would produce less damage when inserted into the eye than other forms.

DR. F. I. KNIGHT presented a specimen of papilloma removed from the larynx, with a colored drawing of the growth *in situ* made by Dr. Quincy.

Dr. Knight remarked that the rarity of benign growths in the larynx in this country must have struck all those gentlemen who had visited the European hospitals. This rarity had not been satisfactorily accounted for. Two cases had come into his clinic, recently, at the Massachusetts General Hospital in the same week: the one of which he showed the specimen had been operated on by himself; the other, by his assistant, Dr. Hooper, who would show the specimen.

Dr. Knight said that various instruments for the removal of these neoplasms had been devised, but that forceps of some kind was the best for removing a soft, sessile growth. Forceps of various size and curve were shown. Some preferred a catheter-shaped instrument, which kept back the epiglottis, others a more rectangular shape, to avoid touching the epiglottis as much as possible. In his case the growth, which was soft and friable, occupied the anterior half of the glottis, being attached to both vocal cords. The patient, a young woman, had not spoken aloud for three years. After proper training of the larynx the growth was removed mostly with the small steel forceps of Macken-

zie, one remaining bit with the Türk-Schrötter tube-forceps, which Dr. Knight had modified, so that it was closed by pushing the tube over it, instead of drawing the forceps within the tube, and at the same time away from the object sought. The voice was restored, some hoarseness remaining on account of the extensive attachment of the growth and consequent swelling under one of the cords. This would probably disappear without treatment.

Dr. Knight said it did not make much difference what kind of forceps one used, provided he knew how to use them; that the larynx should be sufficiently trained beforehand, so that one could see what he was taking hold of, and that rash jumps in the dark, in the hope of catching something, should be indulged in very cautiously. Improper manipulation had been thought by good authorities to irritate a benign growth into malignancy; if a case did not go easily the sittings should not be too prolonged.

DR. F. H. HOOPER then showed the specimen and drawing of the second case. The patient was also a young woman, twenty-eight years of age. Her voice had been altered in quality since last March, and for the last three weeks there had been complete aphonia. The papillomatous growth, which was situated in the anterior angle of the vocal cords and occupied about one third of the glottis, was removed partly with the forceps of Mackenzie, but two large portions were coughed up, which had been dislodged, probably by the manipulation. The patient now speaks in a clear, distinct voice. A small nodule of the growth still remains under the anterior portion of the right vocal cord, but its presence does not interfere with the approximation of the cords or the formation of sound.

DR. CORNELL made some remarks in regard to his eyes, saying that he suffered from glaucoma in both eyes. He has had no pain, but there is an irritated feeling in the lids.

DR. H. W. WILLIAMS said that it was rather an exceptional case. It was one of chronic glaucoma, and therefore not so favorable for operation. The lateral vision was comparatively good, but the central vision was interfered with by a spot on the centre of the macula lutea. He also spoke of the value of the electro-magnet as shown by the cases which had been reported.

THE PUBLIC HEALTH ASSOCIATION.¹

SECOND DAY'S PROCEEDINGS, CONTINUED.

AN excellent paper on The Sanitation of Emigrant Ships, by Surgeon T. J. Turner, United States Navy, was read by Dr. A. L. Gihon. The following is as concise an abstract as can be made of the very full and complete paper:—

It is shown that the only scientific sanitary method for gauging the passenger-carrying capacity of a vessel is the cubic air space, and that upon chemical and physiological grounds four hundred cubic feet is the minimum allowance, and that is to be associated with full and free ventilation. The avoidance of overcrowding and the prevention of ophthalmic diseases are thus secured.

The ordinary means of ventilation prescribed by the statutes are shown to be inefficient, and the writer gives his assent on physical data to any mechanical system which acts upon the principle of aspiration in the ventilation of ships.

Dryness of all parts of the vessel is also insisted upon, and data are given exhibiting the fact that in dampness of the ves-

¹ Concluded from page 620.

sel the deep has fewer perils than this peril of the ship. Cleanliness is insisted upon, — not a superficial cleanliness, but cleanliness of each and every part, even of those which in the progress of the construction of the vessel become inaccessible after her completion.

The arrest of rot in ships is cursorily commented upon and reserved for future observation and experiment, and suggestions are made as to the prevention of rot and the preservation of wood, thus avoiding other avenues to disease.

The writer considers cleanliness, dryness, and ventilation the tripod of the life of a ship, and essential to her being a healthy habitation for human beings.

The filthy and bestial condition of emigrant vessels at the present time and the sanitary police necessary to arrest these conditions are also considered.

The fallacy of counting two children between one and eight years of age as one passenger, and not counting children under one year in the enumeration of passengers, it is trusted, is made evident on physiological grounds to any sanitarian or physician. The cleanliness of the passengers, of clothing and bedding, regular systematic inspection of passengers, cargo, crew, and vessel at the port of departure, the total amount, character, daily allowance, and distribution of food, its cooking, the amount and character of water supply, the latrines, the separation of the sexes, locality and appliances for hospital purposes, a daily report of the sick, the meal hours, employment, appearance of any contagious or infectious diseases, causes of death, if any, a report of such diseases and deaths, and that due publicity be given at the port of arrival as to the existence during the voyage of any disease, movement, the advantages of iron steamers over wooden sailing vessels as transports for emigrants, daily inspection of the quarters, etc., have all been considered.

The necessity for a well-qualified medical officer on board of every vessel, empowered to enforce such sanitary measures as conduce to the health and comfort of the passengers and crew, is insisted upon.

The arrogance, impudence, and despotism that have for centuries been accepted as the only law in action on blue water must give way to the modern advancement, and it needs only the brightness of scientific light to disperse these last dark remnants of the reign of barbarism. The writer also suggests a code of sanitary police regulations, and demands that as all curative medicine is in the hands of the medical officer, so all that most important part of his profession, preventive medicine, which is his professional right, privilege, and immunity, be given him by law.

The nuisances of the daily deluge of the decks with water and its baleful effects are demonstrated. In that traditional peck of dirt said to be allotted to each individual the writer desires for the emigrant, the sailor, and himself permission to take his share "dry."

The occurrence of disease on shipboard, the prevention by such means as are at hand, the arrest of the progress of contagious and infectious disease, the methods to arrest, purify, and disinfect, the absolute necessity of a thorough sanitary inspection of every vessel, the value of a bill of health as a guide to the quarantine officer, are well considered. It is suggested that the fines for the infraction of the laws be turned over to the commissioners of emigration or like constituted legal authorities, and the writer considered it the duty of the government to look after the sanitary interests of the future citizen. He also suggests that, as most of the emigrants are brought to our shores under foreign flags, an international congress be had, in order to secure all the benefits that the sanitary science of the day presents, and he considers the proposed bill before Congress as an advance, but a very small one, over the existing statute.

A brief, practical paper on Dengue was read by Dr. D. C. Holliday, of New Orleans. During the recent epidemic of dengue Dr. Holliday had treated over two hundred cases, and in order to complete his observations corresponded with over sixty physicians in various parts of the State. The conclusions from his experience and answers to questions sent are formulated as follows: —

(1.) Dengue is not malarial; monoxysmal type continued; remittent; duration from three to five days; not fatal.

(2.) Extremely sweeping; no age, sex, or color exempt; no respect for previous attacks of yellow fever or dengue.

(3.) The eruption or efflorescence occurring in forty per cent. of the cases, showing no uniformity in character or appearance.

(4.) Temperature often very high; suffering excessive; prostration often great.

(5.) Albumen reported in a sufficient number of cases to dispute the assertion that it is never found.

(6.) The tendency to hæmorrhages positively proven; generally slight, sometimes serious, rarely or never fatal.

The treatment was expectant in most cases. The value of quinine in large and often-repeated doses is not proven.

Dr. J. G. Thomas, of Savannah, read a paper on the History of Dengue. It was presented in an uncompleted form, and no conclusions were reached by the author, except that at times it seemed to be infectious and propagated by human intercourse.

A paper on the same subject was read by Dr. F. Peyre Porcher, of Charleston. Dr. Porcher thinks the disease is infectious, and is diffused by gradual tainting or contamination of the atmosphere itself, the multiplication of cases intensifying the poison more and more, and that this aerial contamination advances along the main line of travel and human intercourse. Thus, while dengue is in its nature different from yellow fever, yet its manner of propagation is very similar. Dengue has no relations to or affinity with paludal fevers. It is not malarial in origin, and quinine has no specific effect on its course.

At the evening session of Wednesday a long paper was read by Dr. E. M. Hunt, of Metuchen, N. J., on Our Present and our Needed Knowledge of Epidemics, to which the following propositions are appended: —

(1.) Communicable diseases are owing to a contagium which is particulate. The contagium is not the same as to its modes of facility of conveyance in all cases or in all diseases.

(2.) Therefore some communicable diseases are only acquired by contact, some by the suspension of the infective particle in air or water, some by changes in the secretions or excretions after they have been some time in contact with the air, the surface, or after voidance from the body. Whether a contagium has any one or any two or more of these modes of ingress is a matter to be determined only by the classification of closely observed facts.

(3.) Some contagia have an origin external to the body only, while others have an origin only within the body. In either case they seem to be connected with decompositions attended with extraordinary processes of a fermentive or putrefactive character. It is also possible that some diseases have an origin both within and without the human body.

(4.) The development of most of the zymotic diseases is coincident with the presence of specific microzymes. Whether they are the causes of the changes occurring or mere incidentals, and whether by changes they cause, or the food or air they appropriate, or the mechanical clogging they produce in vital parts, they make the crisis, if a disease is to be gravely suspected, but is not yet investigated so as to be accepted as proven.

(5.) If, as appears, the presence of special forms is diagnostic of certain diseases, they are to be studied specifically as a means of diagnosis, as well as in their special relations to the disease in hand.

(6.) Whether any disease which is known to be derived from authenticated cases is in some instances also developed by extraordinary processes within the body or in its surroundings can only be made certain by series of definite and classified facts accurately observed and recorded.

(7.) Whether new epidemics arise from new combinations of matter incident to modern civilization, or whether there are hybrids in disease as well as in plant life, can be determined only in the same way.

(8.) There is a very hopeful study in preventive art in the direction of finding out whether we may not, by preliminary treatment and the presence in the system of medicaments resistful of such fermentation and inimical to the development of these microzymes or destructive of them in their changing state, suspend the morbid processes attempted to be instituted, and so prevent developments of disease.

(9.) As there is so much difference in the way in which the same contagions affect different persons, or in their choice of persons, we have reason closely to study the bearing of individ-

ual conditions on the acquirement and development of contagions, so as to know why some escape attack and others are susceptible.

Hon. John Eaton, United States commissioner of education, delivered an address on Sanitation and Education, which referred to the necessity of making sanitary science a subject of study in schools and colleges, and of the advantages that would result from a more thorough and wide-spread knowledge of the problems of health and disease.

Dr. Elisha Harria, of New York, gave a summary of a paper on A Medical View of the Domestic Pestilences, with Reference to the Sanitary Warfare against them, considering particularly diphtheria, scarlet fever, and small-pox. The conditions under which diphtheria has proved excessively malignant and contagious were dwelt upon at some length.

THIRD DAY'S PROCEEDINGS.

The Association was called to order at ten A. M. Thursday, and after the transaction of routine business Savannah, Ga., was selected as the place of meeting of the Association in 1881.

The advisory council, with Hon. John Eaton as chairman and Dr. John H. Rauch as secretary, reported the following list of officers for the ensuing year, which were unanimously elected:—

For President, Dr. Charles B. White, of New Orleans, La.
For First Vice-President, Professor R. C. Kedzie, of Lansing, Mich.

For Second Vice-President, Professor Henry F. Campbell, of Augusta, Ga.

For Secretary, Dr. Azel Ames, Jr., of Wakefield, Mass.
For Treasurer, Dr. J. Berrien Lindsley, of Nashville, Tenn.
For Members of the Executive Committee, Dr. D. C. Holliday, of New Orleans, La.; Dr. E. M. Hunt, of Metuchen, N. J.; Dr. George M. Sternberg, of the United States Army; Dr. E. L. Griffin, of Fond du Lac, Wis.; Dr. J. G. Thomas, of Savannah, Ga.; Dr. Thomas F. Wood, of Wilmington, N. C.

Dr. Henry B. Baker, secretary of the State Board of Health of Michigan, read a paper on The Relations of Schools to Diphtheria and Similar Diseases. From an examination of the report on the epidemic of diphtheria in the city of Lynn, Mass., in 1876, as given by Dr. J. G. Pinkham, in the eighth annual report of the Massachusetts State Board of Health, Dr. Baker reached conclusions somewhat different from those arrived at by Dr. Pinkham. In the opinion of Dr. Baker, the collection of large numbers of children, some of whom may have about them the poison of diphtheria, is the most prolific source of the spread of this disease.

Dr. O. W. Wright, health officer of Milwaukee, gave a clear account of the Management of Contagious and Infectious Diseases in Milwaukee. Every physician is obliged to report to the board of health all cases of contagious or infectious disease occurring in his practice immediately on discovering the nature of the disease. Every house in which small-pox, diphtheria, or scarlet fever occurs is immediately on discovery placarded by the board. A notice is straightway sent to the schools in the neighborhood, the teachers of which are under orders not to admit pupils from infected houses under penalty of prompt prosecution by the criminal court. The same notice is sent to the public library. Public funerals are strictly prohibited in cases of death by contagious disease.

The entire system is very complete, and comprehends the prompt isolation of every case of contagious disease

occurring in the city, and prevention of the introduction, as far as possible, of any case.

A paper descriptive of Municipal Sanitation as practiced in Mobile for preventing the Spread of Yellow Fever was read by Dr. T. S. Scales, of that city.

A paper, prepared by Dr. O. C. DeWolf, of Chicago, on The Results of attempting to check the Spread of Small-Pox in Chicago, was read by Dr. J. M. Hall, of that city. The author of the paper is of the opinion that twice in the past four years Chicago escaped an epidemic of small-pox by the faithful execution of a programme comprising the prompt report of every case, with removal to a hospital, or isolation at home; disinfection of the dead body and of the house in which the disease occurred; and when general infection is feared compulsory vaccination.

Dr. D. C. Holliday, of New Orleans, read the report of the New Orleans Medical and Surgical Association on the following Questions relating to the Spread of Diphtheria, Scarlet Fever, Yellow Fever, Measles, Small-Pox, etc., submitted by the executive committee. The report is brief and to the point. The questions and answers are as follows:—

Q. (1.) What are the best means of securing prompt and reliable information as to the presence and location of cases of such diseases?

A. It should be made obligatory by law, under a penalty, for physicians and heads of families to report promptly all cases, even suspicious cases, to the health authorities, whose duty it should be to investigate such cases, and report them without delay to all other interested communities.

Q. (2.) What are the best means of securing isolation of the first or single cases of such diseases, and what are the chief difficulties in securing such isolation?

A. The chief difficulty is to secure the cordial coöperation of the medical attendant and of the family. With such coöperation the sick person can be visited only by the physician and those in immediate attendance. Without such coöperation, cases of small-pox should be removed to a small-pox hospital, unless removal endangers life. The presence of dangerous infectious diseases should be indicated by a flag or placard fixed conspicuously on the house, and guarded by a sanitary policeman. The term isolation implies the placing of the patient in a separate building, not in another room in the same building; in case of small-pox, typhus and scarlet fever, partial isolation cannot be depended on. If a room must be chosen in the same house a room in the top story should be chosen.

Q. (3.) Under what circumstances is it proper to declare such diseases epidemic in a place?

A. If the number of patients in a city or place afflicted with one of the above diseases, in a given day, amounts to, for a population of

100	.	.	.	.	.	5	per cent.	5
200	.	.	.	.	.	5	per cent.	10
300	.	.	.	.	.	5	per cent.	15
400	.	.	.	.	.	5	per cent.	20
500	.	.	.	.	.	4	per cent.	20
600	.	.	.	.	.	4	per cent.	24
700	.	.	.	.	.	4	per cent.	28
800	.	.	.	.	.	4	per cent.	32
900	.	.	.	.	.	4	per cent.	36
1000	.	.	.	.	.	4	per cent.	40
2000-5000	.	.	.	.	.	22½	per mill.	
6000-10,000	.	.	.	.	.	16	per mill.	
20,000-50,000	.	.	.	.	.	8	per mill.	
50,000-100,000	.	.	.	.	.	4	per mill.	
200,000	.	.	.	.	.	1	per mill.	

Q. (4.) Under what circumstances is it proper to recommend the closure of schools on account of the prevalence of such diseases?

A. When the disease has been declared epidemic. It might be advisable for parents to withdraw their children even earlier.

Q. (5.) What precaution should be taken at the termination of each case as to

- Care and disposal of the dead?
- Disinfection and cleansing of the room of the house?
- Period of time at which it is safe to allow the convalescent to return to school and society?

A. (a.) Immediate private burial. The corpse should be closely confined and surrounded with pulverized charcoal as soon as possible after death.

(b.) Isolate as far as practicable the locality where such cases have occurred, and delegate to the authorities sufficient power for a thorough and repeated disinfection and cleansing. All bedding and clothing of patients should be thoroughly disinfected by dry heat not less than 250° F., or destroyed.

(c.) Desquamation in the eruptive fevers should be completed before the patient should mingle with others; in regard to the others, after complete convalescence.

Dr. A. N. Bell, of New York, read a paper on The Relations of Certain Filth Diseases to Cold Weather, in which the following propositions were stated:—

First. Pneumonia is a systemic disease, with a chief local manifestation in the lungs.

Second. Pneumonia and its congener acute lung diseases have filth for their chief factor and primary cause, and they should therefore be classed under the head of zymotic diseases.

Third. The influence of a cold, dry air is secondary in promoting acute diseases of the lungs, of which pneumonia is the chief, in so far as these conditions of the atmosphere promote emanations by percolation into the warmer and more rarified atmosphere of the domicile, and are mischievous in proportion to the extent of underlying and surrounding impurities, and the porosity of basement and cellar walls and floors.

The remedy is apparent.

At the afternoon session, Dr. J. H. Pope read a paper, by title, on The Sanitary Condition of the Mexican Population of Western Texas in its Relation to Public Health, and Dr. Atchinson, of Nashville, Tenn., a paper, by title, on The Disposal of the Dead. During the evening session of Thursday an interesting and instructive paper, prepared by Mr. James Gallatin, president of the Sanitary Reform Society of New York, on Tenement-House Reform in the City of New York, was read by Dr. E. W. James, in the absence of the author. This paper has been previously referred to in the JOURNAL.

Prof. Stanford E. Chaille, in a lengthy address, considered The Objections urged by Some Evolutionists against Sanitary Laws, Boards of Health, and the Stamping Out of Certain Epidemic Diseases; and Hon. Erastus Brooks, of New York, read a paper discussing What the State owes the People: Public Health is Public Wealth. The conclusions of Mr. Brooks are sound and practical. He contends that there should be:—

(1.) Supervision over the health of the entire people; peacefully if it can be done, forcibly if necessary. Where the federal government has authority, as upon the sea, lakes, rivers, over forts and arsenals, over the army and navy, in the legislation for commerce, international and internal, especially in regard to infected vessels, over animals exported and imported, this authority belongs to Congress. It has been proved, I think, after the most laborious investigations for nearly two centuries past in this country, that the epidemics appearing among us have been traced to importations. If epidemics in this and other gulf cities seem to disprove this fact, the seeming exception is due to the bad sanitary condition of the localities named, or to the fact, as stated by Dr. Vanderpoel, of the germs of disease lying concealed and dormant in some cellar or room not reached by the purifying air of heaven in the place where the disease exists. The port of New York, for four months of the year, has been as much exposed as New Orleans to yellow fever, and it has been kept away from New York, not by any system of non-intercourse, but simply by the practice of correct principles of quarantine by vigilant and capable officers of the State.

(2.) State governments are clothed with power over the health of the people within the commonwealth, and over all the territory where the federal government is without jurisdiction. The col-

leges and schools of the State, its institutions of charity and learning, its prisons and reformatories, its codes and laws, all that belongs to roads, avenues, parks, canals, docks, piers, and even to public and private dwellings, when legislation is needed for health, belongs to the parental care of the State. To prevent adulterations in food and drugs—not practiced, I hope and believe, to the extent reported or suspected—is another of the state duties. To clothe boards of supervisors and trustees in towns and villages, and mayors, common councils, and health boards in cities, with ample power in regard to health, and also to require them to pass and enforce ordinances, is a positive duty of the State. A state department of health is essential to secure these results, and in its action it must be impartial, effective, vigorous, determined, and take no step backward.

Finally, a word as to quarantine. Commerce cannot be forbidden; but it may be regulated when hurtful to health. At best, however, state law is only a relative guarantee of the public safety. Quarantine and commerce are naturally enemies, and the State must regulate the relation between the two; the State always insisting that as far as possible the public health within its borders shall be permanent. Every nation and every State has the right to use intelligent ways and means to preserve health over all its borders, and the federal government also has rights which must be respected and laws which must be obeyed. There are natural, legal, wise, and conservative lines between nations, States, municipalities, and towns. Where the death-rate in England is 19.9 in the 1000, in Austria 31.3, and close on to the latter number in all parts of Italy, official action is demanded in the name of public safety.

FOURTH DAY'S PROCEEDINGS.

The Association was called to order at ten A. M. by the president. The committee of the advisory council, to whom was referred the presidential address, reported certain resolutions referring to the accurate registration of vital statistics, commending the efforts of the National Board of Health to secure a practical basis for the notation and nomenclature of diseases and causes of mortality, and stating that systematic sanitary surveys and inspections are essential aids to public-health works and to the progress and application of sanitary science. The report of the committee was adopted. Several amendments to the constitution, proposed by Dr. Azel Ames, Jr., of Massachusetts, were laid over for action until the next annual meeting.

A resolution was adopted requesting the National Board of Health to continue its investigation into the causes and nature of diphtheria.

The committee on the prevention of venereal diseases was, on motion of Dr. McCormick, of Kentucky, reconstituted for the following year, and instructed to prepare draughts of a state law and of municipal ordinances calculated to secure the desired results, and to report at the next annual meeting of the Association. The committee is as follows: Albert L. Gihon, M. D., medical director United States Navy, chairman; J. M. Keller, M. D., Hot Springs, Ark.; George M. Sternberg, M. D., surgeon United States Army; D. C. Holliday, M. D., New Orleans, La.; Preston H. Balthache, M. D., surgeon United States Marine Hospital Service; John Morris, M. D., Baltimore, Md.

A resolution of Major Walthall, of Mobile, "that a committee of five members be appointed to prepare and recommend measures for the more efficient management and control of future epidemics, especially for the training, selection, and employment of skillful and trustworthy nurses," was adopted, and the following appointed to serve on the committee: W. J. Walthall, of Mobile, Hon. John Johnson, of Memphis, Dr. F. Peyre Porcher, of Charleston, Dr. G. A. Ketchum, of Mobile, and Hon. John Eaton, of Washington. On motion of Major Walthall, Dr. Billings, U. S. A., was added to the committee.

The advisory council for the ensuing year was announced as follows:—

Alabama, R. D. Webb, M. D., Livingston.
 California, Henry Gibbons, M. D., San Francisco.
 Florida, Hon. S. C. Cobb, Pensacola.
 Georgia, W. H. Elliott, Augusta.
 Illinois, J. H. Rauch, M. D., Chicago.
 Indiana, J. F. Hibberd, M. D., Richmond.
 Mississippi, Wirt Johnson, M. D., Jackson.
 Louisiana, Edward Fenner, Esq., New Orleans.
 Maryland, James A. Stewart, M. D., Baltimore.
 Massachusetts, R. F. Davis, Wakefield.
 Pennsylvania, Henry Hartshorn, M. D., Philadelphia.
 Ohio, T. C. Minor, M. D., Cincinnati.
 Missouri, George Homan, M. D.
 Rhode Island, E. M. Snow, M. D., Providence.
 Tennessee, John Johnson.
 Virginia, J. G. Cabell, Richmond.
 Michigan, Henry B. Baker, M. D., Lansing.
 Iowa, W. S. Roberts, Davenport.
 West Virginia, James E. Reese, M. D., Wheeling.
 District of Columbia, Smith Townsend, Washington.
 New York, Elisha Harris, M. D., Albany.
 North Carolina, Thomas F. Wood, M. D., Wilmington.
 South Carolina, H. D. Frazier, Charleston.
 Connecticut, C. W. Chamberlain, M. D., Hartford.
 New Hampshire, S. P. Conn, M. D., Concord.
 Vermont, Henry D. Holten, M. D., Brattleborough.
 Texas, J. H. Pope, Columbia.
 Wisconsin, J. T. Reeve, M. D., Fond du Lac.
 Minnesota, C. N. Hewitt, M. D., Red Wing.
 New Jersey, D. C. English, M. D., New Brunswick.
 Arkansas, A. L. Breysacker, M. D., Little Rock.
 Kentucky, Pinckney Thompson, M. D., Henderson.
 Delaware, L. P. Bush, M. D., Wilmington.
 United States Army, Joseph R. Smith, surgeon U. S. A., New York.
 United States Navy, A. L. Gihon, medical director U. S. N., Washington.
 Commissioner of Education, Hon. John Eaton, Washington.
 Marine Hospital Service, P. H. Bailhache, M. D., Washington.
 National Board of Health, Stephen Smith, M. D., Washington.

On motion of Honorable Erastus Brooks, the advisory council was instructed to appoint a delegate to the International Quarantine Convention, which meets in Washington in January.

Professor S. E. Chaillé read the Summary of Conclusions of the Havana Yellow Fever Commission.

A lengthy and somewhat acrimonious discussion between Dr. J. Dickson Bruns and others, of New Orleans, Dr. Jerome Cochran, of Mobile, Dr. G. M. Sternberg, United States Army, and others followed, upon The Nature of the Fever which Prevailed on the Lower Coast (of the Mississippi River) during the Summer of 1880.

Dr. R. B. S. Hargis, of Pensacola, read a paper on Yellow Fever Recognition and Isolation, and Dr. B. F. Gibbs, medical inspector United States Navy, one on A New Method of Experimental Investigation into the Cause of Yellow Fever upon the Basis of Similar Densities.

The questions concerning the origin and spread of yellow fever, notwithstanding these elaborate contributions, remain *in statu quo*.

A resolution expressive of the loss sustained by the Association in the death of Dr. Samuel Choppin, first vice-president, was adopted on motion of Dr. Holliday, of New Orleans.

Dr. Billings then returned thanks for the dignified manner in which the Association had conducted its deliberations, and declared the meeting adjourned.

The next meeting will take place in November, 1881, at Savannah, Ga.

Recent Literature.

A Practical Treatise on Nervous Exhaustion (Neurasthenia). By GEORGE M. BEARD, A. M., M. D. New York: William Wood & Co. 1880. Pp. 198.

Any work which adds somewhat to our knowledge, clinical or scientific, of the class of diseases called to mind by the above title is sure of a ready welcome from the profession, so unpleasantly is the thought of them associated with the remembrance of tedious hours spent in struggling against the protean symptoms which these cases are apt to present.

Such a welcome this book by Dr. Beard deserves, in spite of certain well-marked faults. Leaving apart for the moment the question of systematization of the facts brought forward, the author has certainly described and illustrated a large and significant array of symptoms, not hitherto brought together, and he has given us a good deal of suggestive reasoning about them.

The very strength of the book in this respect, however, really constitutes its weakness as a systematic treatise. Thus, in the introductory chapter, Dr. Beard devotes much space to a denunciation of the habit among students and practitioners of medicine of spending so much time and energy in studying the diseases of the poor in hospitals and dispensaries, when they should be watching the symptoms of their Fifth Avenue patients, and speaks of our "blind deference to Europe" as causing us to be "fearful of making our own independent observations of the diseases peculiar to this land," etc.

We sympathize with him in believing that from the point of view of charity much of this dispensary work is misplaced and injurious, tending to pauperize the already poor; but that is a question totally apart from the scientific problem. Men do not seek hospital or dispensary practice for charity's sake: it is idle for them to maintain that they do. They seek it because they can there study pathology to the best advantage both to themselves and to science, and if they do not get a chance to study *neurasthenia* also, it is so much the worse for *neurastheni-ology*,—if we may allow ourselves a little of the author's license in word-coining.

It is not from any grudge against *neurasthenia*, as being a disease of the rich, that students have failed to study it, but because its phenomena are difficult of comprehension, and not readily accessible to exact methods, or more properly, the usual methods of research.

Let Dr. Beard, or any one else, give a clew to correct lines of investigation with sufficient clearness, as Rokitansky, Virchow, Louis, and the rest have done in other departments, and there will be no more cause for complaint. The remedy for the evil is as apparent as its existence.

Meantime it must be admitted that Dr. Beard's house is of glass; for the evidence of sympathy or familiarity with the great store of pathological knowledge which has made medicine what it is, is conspicuous throughout the book by its absence; and this defect will seriously detract from the good influence which the work might otherwise exert. Thus, to take a single example, on page 131, where the relation of *neurasthenia* to nephritis is treated of in the most fragmentary manner, he says, amongst other state-

ments, that though a certain amount of evidence of real disease of the kidneys may be present he has discarded the usual "internal routine treatment."

What does he mean? Is it that these symptoms do not point to nephritis, or that he has made such a study of nephritis that he feels confidence in expressing new and decided opinions about its treatment; or, lastly, that he feels some uncertainty about the true significance of the indications referred to? In either case we might fairly look for a more elaborate treatment of these points of vital interest, whereas now we are, as it were, presented smilingly with a broken fragment of marble, and told that it is a portion of a Greek statue.

So also with the classification of symptoms. With a frantic mania for name-making, Dr. Beard has taken these unfamiliar symptoms, which are the furthest removed from having been assigned to their true place by the verdict of the experience of the profession, and tries to bottle them up out of reach of discussion by giving them such names as cerebrasthenia, myelasthenia, mysophobia, siderodromophobia, with dozens of other "phobias," of which the list is only to be closed when a name has been given in tortured Greek to all the causes which can possibly excite the emotion of fear or anxiety in the human breast. The term neurasthenia itself, though it did not originate with Dr. Beard, is bad enough, as encouraging this tendency to block investigation by falsely implying a crystallization of our knowledge with regard to the point at issue.

If used for convenience' sake, such names may do no harm, but their cloven foot appears the moment an attempt is made to give them an exact meaning; as, for instance, in the case of neurasthenia, by speaking of it as meaning "a deficiency of nerve force," — a definition which is only saved from being too daring or too premature by being evidently too vague.

We should be sorry to have conveyed the idea through these statements that we regard the book before us as of little worth. On the contrary, we think that its faults, which are glaring and on the surface, are deeply to be regretted, as impairing the value of an excellent and creditable piece of work.

Dr. Beard seems to us to have made it clear beyond question that there is a large family of symptoms, indicating primary disturbances of the nervous system, which may exist independently of serious or proportionate disease in the other organs, having most to do with the nutrition of the tissues. He has done great service by enriching our knowledge and coördinating the signs of this condition, and we heartily recommend the book to our readers as full of suggestiveness. But the complete history of the subject is, nevertheless, yet to be written.

J. J. P.

Spermatorrhœa: Its Causes, Symptoms, Results, and Treatment. By ROBERTS BARTHLOW, M. D. New York: William Wood & Co. Fourth Edition, revised. Pp. 128.

Persons afflicted with this disease are not among the most attractive class of patients, and together with them the study of the disease itself is apt to be taken up with a sort of disgust, or to be relegated to the irregulars.

This is not right, as Dr. Bartholow says, and as we all know, and indeed the profession proves its willing-

ness to at least learn about the matter at second hand by welcoming a fourth edition of this little book.

The substance of the work was delivered some years ago in the form of a lecture, and for that purpose it was well adapted. Coming to us, as it does now for the fourth time, in the shape of a systematic treatise, we cannot afford it the same unqualified praise, though it certainly does something towards filling a very wide gap.

Spermatorrhœa is regarded by the author as being — when not due to organic disease of the nervous system — a *neurosis*, in contradistinction to the opinion of Lallemand, who lays, Dr. Bartholow thinks, far too much stress on the local disease in the prostatic portion of the urethra and the seminal ducts, the probability being that such changes can at most only increase an existing difficulty.

In the sense in which the author means it this criticism of Lallemand may well be correct. As a pathological fact, however, it is doubtful if the symptom spermatorrhœa can be said never to be due to local inflammation of these parts. At any rate, there is evidence to the contrary which deserves mention. Thus, Ultzmann¹ says that such a result may follow gonorrhœa of long standing, and that in cases of chronic inflammation of the prostate spermatozoa are very commonly found in the urine.

Dr. Bartholow also castigates Lallemand, and no doubt with reason, for confounding the diurnal leaking of prostatic and urethral mucus with true spermatorrhœa, thereby frightening his patients out of their lives without reason.

It is not to be forgotten, however, that the patients who have brought about even this non-seminal discharge to any marked extent have usually done so by exposing themselves to the same influences that habitually cause true spermatorrhœa, and as it is admitted that the seminal loss is of no great consequence in itself, but only as an index of the harm done to the nervous system, it may well be that this anxiety is not totally groundless. The patients have not diurnal spermatorrhœa, it is true, but they may have many others of the train of symptoms due to sexual abuse.

Similarly, not enough is said, we think, of the spermatorrhœa dependent on impaired health as in neurasthenia.

The chapter on treatment is quite full and interesting. As might be expected from the author's pathological views, the indiscriminate use of cauterization of the prostatic urethra is condemned, and its employment advised only where there are signs of (secondary) local inflammation, or where a moral effect is sought. An equally good and safer application is that of tanno-glycerine. The value of circumcision is dwelt upon as promoting cleanliness of the glans, and thus eliminating a source of peripheral irritation.

Good hints are given for general treatment, and the proper use of "aphrodisiacs" and "anaphrodisiacs" (an accepted but unfortunate terminology) is pointed out.

Taken as a whole, we should characterize the book as interesting and useful, but as failing to treat the subject in a sufficiently broad and thorough manner to deserve the name of standard monograph.

By some accident the name of Mr. Hutchinson, the distinguished surgeon of the London Hospital, is misspelt throughout.

¹ Neuropathien des männlichen Harn und Geschlecht's app. Wien. 1879. Page 89.

Medical and Surgical Journal.

THURSDAY, DECEMBER 30, 1880.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number: \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Remittances by mail should be sent by money-order, draft, or registered letter to HOUGHTON, MIFFLIN AND COMPANY, Boston, Mass.

THE PUBLIC HEALTH ASSOCIATION AT NEW ORLEANS.

THE meeting of the Public Health Association at New Orleans, of which the JOURNAL has given a very full report by its correspondent on the spot, must strike our readers as having sufficiently well fulfilled the functions of that organization, which we suppose to be the bringing together in a pleasant place from all parts of the country of those interested in sanitary science, for its own and their own sakes, without too much profit to the railway companies. Such individuals are thus given an opportunity to become acquainted with each other, and are secured time in which to discuss pet questions and an audience before which to read papers. Though all the discussions may not be wise,—and where they lead to personal altercations they certainly are not,—nor all the papers fresh, interesting, concise, and judicious, doubtless good influences result from these reunions, and the sacrifice of the railways is not without its profit to the country. In these respects, moreover, many active members of the association are quite well aware that there are higher standards of excellence than those attained, to which it may legitimately aspire in its work. From a local point of view we are glad that Massachusetts was fortunate enough to be represented by two such competent sanitary officials as Dr. Walcott, the health officer of the State Board, and Dr. Durgin, the secretary of the Boston Board of Health. Dr. Snow, of Providence, and Dr. Chamberlain, of New Haven, were also on hand to speak for New England. From a general point of view we are glad to observe that a general disposition was manifested to support the National Board of Health, and award it due credit for its honest efforts as well as for its actual beneficial achievements. We are pleased to learn from private sources that Colonel Waring's system of sewerage at Memphis bids fair to be practically successful, and that he has good reason to consider the same applicable, with some modifications, to New Orleans. On the other hand, we hear, to our regret, that the pestilential Bayou Gayoso at Memphis has been untouched, and that there is no present probability of its being reformed.

The Association was treated to some rival sanitary oratory by sanitary patriots from New Orleans and Memphis, respectively, which reminds us a little of the talk about population exchanged between Chicago and St. Louis, or of some of the shrewd Turkish pronouncements touching the reformation of civil administration, and must be taken with the same kind of

allowance with which one learnt, in former times, to temper the fervid utterances of the congressman when, in picturing his own part of the country, he said, as Caleb Cushing did of New England, for example, Nowhere are the mountains higher, the rivers broader and deeper, the valleys greener, etc., etc.

The Association will evidently require a long life and more frequent meetings if it is to take under its protection such proposals as the regulation of prostitution throughout the country, advocated by Dr. Gihon, and the restoration to the Gulf States of an immunity from yellow fever by the cutting of Professor Gamgee's ship canal through Florida.

LONG SCHOOL SESSIONS.

ON another page of the JOURNAL the attention of its readers is recalled to the subject of the division of school sessions by a correspondent, whose opinions deserve consideration, and we have only to complain of his communications that they are too rare. The remarks in question are *apropos* of the late discussion over single or double sessions at the Prince School in this city, and the writer takes exception to a short editorial on that subject, which appeared in the JOURNAL of November 11th, and was copied into the *Daily Advertiser*. Our reference to Chadwick's estimates of a safe limitation of mental work for children is thought to be especially infelicitous, and we are told that in confining our remarks to the school attendance of children between twelve and sixteen years of age we failed to touch upon the real points of controversy. We still see no reason to modify the expressions of the article, and believe that instead of missing the real point of the subject we seized it.

Our remarks were limited to children between the ages of twelve and sixteen because we believe the majority of the children concerned to be between those ages, and should be sorry to think that this was not the case; moreover, in our estimation it is only for children between these ages that the question of a single or double session should come up at all. In regard to another point, which our correspondent seems to consider the real one at issue, we go even farther than he does, and think it a monstrous pity that "babies five years old" should appear at a public school even for *one* hour. The *crèche*,—and for suggesting the comparison, though unavoidable, we are almost tempted to apologize,—even when well conducted, is merely a substitute for something better, and is only made commendable by necessity. The argument of necessity scarcely applies to the Prince School district. For children between the ages of seven or eight and twelve we certainly should not advocate a double session in a very exposed part of the city, and in a climate where so much of the weather is inclement. What the length of the single session should be for such children, at what hour it should begin and at what hour end, seems to us an entirely distinct question, which has nothing to do with single or double sessions, which can be decided

on its own merits, and in the decision of which we should probably be in hearty accord with our critic. Chadwick, in his estimates, as cited by us, touches on two distinct points, namely, first, the length of time which a child of a given age can attend to one and the same subject; second, the total daily mental work suitable to a child of a given age. We fail to see exactly how our valued correspondent found these estimates "odd reading" in the connection in which we used them, although, we take it, the explanation is to be sought in his making the single session synonymous with "crowding the whole day's work of the child into one unbroken lump." This is certainly not a correct description of the single session, and if adopted would readily make much that has been said on this subject look "odd."

It is obvious from Chadwick's estimates, if they are to be accepted, that a change of mental occupation is favorable to more prolonged mental occupation, and with this change continuous mental occupation may be more safely permitted. A session of five hours with two recesses and a variety of studies is a very different thing from one unbroken lump, and actually a safer and more profitable thing than a somewhat shorter session with less recess and less change of subject. This point seems to us well taken and important in connection with the Prince School controversy.

It is still our opinion, and we do speak from a medical stand-point, that the decision in regard to the *Prince School* was a wise one. The manner of reaching the decision we consider rather outside of our field of criticism, although having much sympathy with many objections which can be urged in the abstract against universal suffrage and the rule of the majority. We cannot avoid, however, giving weight to the opinions of parents in this matter, guided as they must be by a daily experience, and, we hope, by the counsel of the family physicians.

DAVID PAIGE SMITH, M. D.

THE announcement of the death of Dr. David Paige Smith, at Springfield, Mass., at the age of only fifty years, is a surprise to many who within a brief period had seen him full of energetic life, which seemed to promise a long career of active usefulness.

Dr. Smith belonged to a family highly distinguished in the annals of surgery, and the names of Dr. Nathan, and Dr. Nathan R. Smith, especially, will long be remembered in the profession, as representing high skill and great originality.

At the breaking out of the civil war he was commissioned as surgeon in the eighteenth regiment, Massachusetts Volunteers, July 31, 1861, and was made brigade surgeon December 24th of the same year.

While in charge of the United States Army General Hospital at Fairfax Seminary, Va., he did one of the few successful excisions of the head of the femur for gun-shot wound. Skillful and indefatigable in his work as an army surgeon, he could and did look back

with pride on the period of his life thus devoted to the national service.

After fulfilling these duties he retired to Springfield, where he became post surgeon of the United States Armory, and examining surgeon of the Pension Bureau; and, while obtaining a conspicuous place among the many able practitioners of the Connecticut Valley, he added to the manifold cares of such a position as his the labors and responsibilities of the Professorship of the Theory and Practice of Medicine, in Yale College, lecturing there with great acceptance during a portion of the year. His directness and conciseness of speech rendered his teachings impressive and valuable, while his qualities of accurate observation and sound judgment made him esteemed by his colleagues in the profession, and by the community, where his loss must be extensively felt.

Besides his labors as a practitioner, Dr. Smith found time to publish some of the results of his experience, and to serve as consulting physician of various charitable institutions.

Dr. Smith graduated as A. B. at Yale College in 1851, and as M. D. at Jefferson Medical College, Philadelphia, in 1853. He was for twenty-six years a Fellow of the Massachusetts Medical Society, for several years one of its councillors, and for the two years preceding his death was its vice-president.

MEDICAL NOTES.

—The Medical Record Visiting List and Physician's Diary, containing, in addition to many useful tables, a gauge for urethral sounds, is of a very convenient form. It is published by William Wood and Company.

—The death of Dr. Sanford B. Hunt, of Greenpoint, N. Y., of diphtheria, contracted during the performance of tracheotomy, is recorded by the *New York Medical Record*. A tracheotomy tube which he had been using upon his patient became choked up, when he cleared it by placing it to his mouth and blowing through it.

—The *British Medical Journal* considers the fact that Guy's Hospital has one hundred and eighty beds closed to the public, and further is £10,000 deficient financially on the results of the year's operations, a curious comment on recent expenditure on the treasurer's house and chapels.

—Drs. Bergeron and Pidoux, both well-known members of the French Academy of Medicine, have been nominated Commanders of the Legion of Honor.

—It is reported that Professor Rose, of Zürich, will succeed the late Dr. Wilms at Berlin.

—It is said that the eels of Mystic Pond, having been driven from their peaceful resting places on its bottom by the accumulating sewerage of Woburn and Winchester, and finding an exodus to the river brought no relief, have been captured in large numbers at the out-flow of the pond in a despairing condition. Preferring the honorable death of a food-fish and embalming in a pie to asphyxiation and a final grave in

sewerage they yielded themselves willing victims, and the price of eels in the market has not been so low for many years. We mention this for what it is worth to those of our readers whom it may concern.

— We have received the fifth edition of the Physician's Memorandum Book, by Joel A. Miner. It is a very convenient form for the pocket, a page being devoted to each week, with additional page opposite for memoranda. Prominent among the directions for the use of the various blanks is the statement that certain figures are intended for the record of homœopathic medicines, which, greeting the physician's eye every time he opened the book, would, we fear, grow somewhat wearisome before the close of the year.

— The London *Lancet* says that the present supply of subjects for dissection is far from satisfactory. Notwithstanding that most of the London schools received some subjects during the summer months, a large number of students are still without parts. As a consequence of the inadequate supply applications have been made to some of the East End boards of guardians, who have hitherto refused the privilege of allowing the schools to have the bodies of their unclaimed paupers for purposes of anatomical study. In most metropolitan unions this permission is readily given; and as, by act of Parliament, only unclaimed bodies can be given up it is difficult for us to appreciate the arguments which can have induced the visiting committee of the Shoreditch Workhouse to refuse their assent to the request. It is so obvious that, for obtaining any exact knowledge of the human body, a sufficient supply of subjects must be forthcoming that we hope boards of guardians will not put forward any unnecessary difficulties, but will readily grant the authorities of the various medical schools every facility for carrying on such an all-important branch of medical education. The various safeguards laid down in the anatomy act are so stringent that the occurrence of any disrespect to the dead, or of outrage to the feelings of the relatives, is almost an impossibility; so that the lay authorities should carry out the spirit as well as the letter of a law which has been of so great service, not only to students of medical science, but to the community at large. We are glad to see that the guardians of Bethnalgreen have taken a fairer and more liberal view of this important question than their brethren at Shoreditch; and we hope that the other boards, to whom application have been made, will follow their wise example.

— We find the following remarkable history in the London *Lancet* for November 13th: "M. Colin related to the Académie de Médecine, at its last meeting, a remarkable instance of prolonged incubation of hydrophobia. The case was that of a man who died a few minutes after being admitted (on August 31st) into the hospital, presenting maniacal excitation, expectoration, fear of drinking, and apprehensions, during more lucid moments, lest he should injure those about him. The autopsy showed no lesions, but some small cicatrices were noted on the left wrist and in the front of the thorax. Further inquiries showed that the man had been ill two days only. On the first he com-

plained of a severe pain in the hepatic region and extreme thirst, although he could not drink; as soon as he raised a cup to his lips he was seized with shivering and spasm. The next day he complained of severe sense of constriction in the pharynx and a feeling of a wish to bite. The symptoms thus seemed clearly those of hydrophobia. No history could be ascertained of a bite from a dog during the previous five years. On November 2, 1874, however, in Algeria, he had been bitten by a dog, which was attacking a comrade, to whose assistance he went, and who was also bitten. The latter had his wounds cauterized the next day, and died in eight days of hydrophobia. The patient of M. Colin was cauterized half an hour after the receipt of the bite. Some authorities, as Devergie, have maintained that the cases of prolonged incubation are really cases of 'nervous hydrophobia;' but the symptomatology of such a case as this seems too precise for the theory that an attack so virulent could result from 'nervousness.' Hydrophobia is relatively common among the soldiers in Algeria, especially in the interior of the country, at the farms, where there are Arab dogs; and it is still more common among the civil population.

"In regard to these prolonged periods of incubation in hydrophobia, of which this case presents an instance most remarkable, if not altogether beyond the reach of criticism, it is worth while to refer to one of the results obtained by M. Pasteur, of which we gave an account last week. It has long been a favorite explanation of these cases to suppose that the virus remained localized in the wound, developed there, and only caused the symptoms when, in consequence of some adventitious circumstance, it passed into the blood. M. Pasteur has shown that this explanation is, as regards some diseases, not a matter of theory but of fact. He has found that in the chronic cases of 'cholera of fowls' the poison does develop in certain organs, and not, as in other cases, in the blood, and that when, after a variable period, the organized poison passes into the blood, severe symptoms come on rapidly, and the creature soon dies."

— A royal medal of the Royal Society has been conferred on Professor Lister, on recommendation of the council, in recognition of his important physiological services and the advances in surgery due to his studies and application of antiseptic principles.

— The London correspondent of the *Louisville Medical News* writes as follows:—

"Dr. Robert Barnes has, it is said, resigned his appointment at St. George's Hospital as obstetric physician. Dr. Barnes has had so extended and laborious a hospital experience that no one will deny him the right of taking now some well-earned rest from these public duties. Barnes is not a man, however, to remain idle, and I understand he is occupied in preparing a manual of midwifery jointly with his son, Dr. Fancourt Barnes, one of the most rising and scientific of our gynecologists. This manual—which is announced by Smith, Elder & Co.—will be much anticipated, as we have had no really good manual of midwifery since that of Dr. Tyler Smith. His man-

ual has long been out of print, and various attempts have been made to supply its place; but any one who reads it now will find that, though obsolete in respect to operative details and all the matters in which obstetric practice has progressed since his time, it still remains a masterpiece of clear thought and sound philosophical doctrine; and certainly none who have followed in Dr. Tyler Smith's footsteps have yet been able to produce a work equally valuable to the student and the practitioner. Probably Dr. Robert Barnes is the only man in this country from whom we can expect a manual of a like character. For many years an editorial writer in the *Lancet*, he has always been distinguished for the singular beauty and clearness of his style. He is at the same time a man of extensive reading and enormous practical experience; he is philosophical in his views and thoroughly practical in his conclusions, an accomplished draughtsman and a thorough linguist. Dr. Fancourt Barnes possesses many of these accomplishments, although of course he is far from rivaling his father in the great qualities possessed by a naturally vigorous mind and much ripened by a vast experience. Barnes's *Manual of Midwifery* will, I think, probably become a classic."

—The *Ohio Medical Recorder*, quoting Dr. Alfred C. Post, says:—

"When Mr. Callender was in this country he gave a lecture in Bellevue Hospital on the treatment of abscess by the method known under his name, described by himself as hyperdistention; that is, opening it by a moderate-sized opening, and then injecting a solution of carbolic acid—about one to thirty or forty—in such quantity as to distend the walls of the abscess to an extreme degree, in order to make the antiseptic fluid penetrate to the utmost recesses of the abscess. He represented that after such an injection of a chronic abscess the walls of the abscess will contract, and none of the usual symptoms of septicæmia will occur; that the abscess will contract to a mere sinus, and then, if there be no permanent cause to keep it open, it will heal up entirely."

Dr. Post has proved the beneficial effects of this procedure, and warmly advocates it.

—The following is a clipping from the *North Carolina Medical Journal*:—

Dr. Boyd B. Joll writes to the *British Medical Journal* of September 25th, referring to a condition of complete flaccidity of the iris as a sign of real death. He says that it can easily be shown by synchronous compression of the globe of the eye in two opposite directions, when the pupil will readily assume an oval or irregular shape, whereas in apparent death no ordinary amount of compression in this manner will have the least effect in altering the circular of the pupil. [A communication in a later number of the *Journal* goes to show that this sign cannot invariably be depended upon.

—"The general feeling of the medical profession," says the *Medical Press and Circular*: "in relation to the decisive step taken by Dr. Habershon and Mr. Cooper Foster in resigning the posts of senior physi-

cian and surgeon, respectively, to Guy's Hospital, will be one of relief that at last some have been found to vindicate the dignity of medicine and the honor of its outraged professors."

—Thirty-eight out of ninety-five extraordinary students (foreigners) of the University of Vienna during the recent summer session were American.

—Mr. Matthew Duncan is mentioned as the next president of the Obstetrical Society of London; Mr. Lister and Dr. Wilks as the coming presidents of the Clinical and Pathological Societies respectively.

Miscellany.

LONG SCHOOL SESSIONS.

MR. EDITOR, — Some weeks ago, the *JOURNAL*, in an article which reappeared in the *Daily Advertiser*, heartily approved the plan of long sessions in the Prince School. But the real points of controversy are so little set forth in that article that we ask leave to bring the subject once more before the *JOURNAL* and its readers. The question is believed to be of the highest importance to great numbers of children.

The *JOURNAL* understands that the school attendance of children "from twelve to sixteen" is the matter under discussion. That "Chadwick's" limitation of safe mental work for a child to short periods should be used to show the wisdom of crowding the whole day's work of the child into one unbroken lump makes, it must be confessed, rather odd reading. And such an arrangement so flatly defies every principle of school hygiene that it is matter of amazement that any physician can be found to defend it.

But an inquiry of this kind, however important, hardly touches that which was lately raised in the Prince School. The monstrous outrage there permitted is the keeping of *babies five years old* at school through four and a quarter hours, and the confinement of children *nine years old* and *ten* for five hours! And it is pretended that a plan like this is made harmless by a recess of ten minutes and by another of twenty!

No one disputes the inexpediency of sending little children across the wide back bay district four times a day in inclement weather. But surely appropriate measures can be devised to remedy this evil without hurrying into an opposite danger, at least ten times as mischievous.

The question whether a child not yet twelve, breakfasting before eight o'clock, does not imperatively need at half past twelve or one a substantial meal, instead of an apple or a bit of cake, is treated as of trivial consequence. And yet all the bismuth, pepsine, iron, and quinine prescribed by all the readers of the *JOURNAL*, from January to December, will not bring to the fathers of these children one one-hundredth part of that improved digestion, gain in bodily vigor, and clearness of mental power that a suitable meal taken at that hour, away from office and counting-room, will secure. By how much more is this true in the case of an immature, growing child! Excellent reading upon this point may be found in the reports of the Chauncy Hall School and the Institute of Technology.

The *JOURNAL*'s suggestion as to the value of opportunity for continuous play sounds like a grim jest to the father of some little girl of nine, who reaches home, weary with five hours of school, at half past two, and

during at least half the school months finds remaining after her meal *just one hour of sunlight*.

We forbear to comment upon the device by which this controversy was decided in the school committee. Bad as the matter of the decision was, it was rendered far worse by the manner of accomplishing it. If for an intelligent settlement of questions like this a very high degree of professional and technical knowledge is indispensable,—and that we unhesitatingly claim; if, in other words, these are matters of right and wrong, a more contemptible way of adjusting them can hardly be suggested than submitting them to a popular vote.

INGLEBY.

DEATH FROM AN ANÆSTHETIC IN VIENNA.

MR. EDITOR,—It is thought that the accompanying communication may possibly have sufficient interest for the readers of the JOURNAL to merit publication; not from rarity of cases of death from chloroform, but from the fact of its having occurred in the hands of so distinguished a surgeon; and, secondly, from the fact that it was due to a compromise anæsthetic, safer than chloroform, but not so safe as ether.

The following case occurred last November in the practice of Professor Billroth, in his operating-room at the Vienna General Hospital. The patient, a weakly boy of fifteen years, was suffering from dislocation of the left hip-joint. The anæsthetic in general use here in Vienna, consisting of a mixture of 90 parts alcohol, 90 parts ether, and 300 parts chloroform, was administered in the usual way. After a few minutes of unsuccessful effort at reducing the dislocation, attention was called to the condition of the patient. There was great pallor of the face and lips; the pulse was very small; and respiration had ceased. The head of the patient was lowered, and Marshall Hall's method of artificial respiration was practiced for ten minutes without success. Tracheotomy was next performed, and one assistant blew air through the tube into the lungs, while another compressed the patient's chest to drive it out. This method was practiced for some time without success, as the patient continued pale and pulseless.

At the autopsy, twenty-four hours later, the following condition was found:—

Body pale. Pupils dilated. Left leg extended and inverted; head of femur dislocated backward. Right thigh flexed and everted, with ankylosis of the hip-joint; fistulous opening below Poupart's ligament, from which pus issued. Dura mater pale; vessels empty. Vessels of inner meninges moderately full; brain substance pale and œdematous. Lungs healthy, and vessels containing a moderate amount of blood; parenchyma somewhat œdematous, but everywhere containing air. Pericardium contained five grams of clear serum. Heart of normal size and somewhat contracted; contained a small quantity of fluid blood. A large psoas abscess was found near the right hip-joint, connecting with the fistulous opening in the right inguinal region. No odor of the anæsthetic was anywhere noticed.

Thus the autopsy eliminated any possible morbid condition as the cause of sudden death. At the same time the condition of the pupils, heart, and lungs point to a quick-coming paralysis of the different branches of the sympathetic nerve. This is probably what takes place in anæsthetic poisoning.

It should be noticed that the treatment in this case was that of asphyxia, and not of cardiac and respiratory paralysis. One cannot help thinking that tracheotomy was not indicated, but rather some quick-acting cardiac stimulant,—such, for example, as subcutaneous injections of digitalin. Neither was the patient allowed any other air except that devitalized commodity peculiar to a German lecture-room.

In justice to the above-mentioned anæsthetic mixture, it should be stated that in Professor Billroth's clinic this is the first death that has occurred for nine years from its use. Previous to that, two deaths occurred in quick succession from the use of pure chloroform. Very truly yours,

FREDERICK F. DOGGETT, M. D.

VIENNA, December 5, 1880.

FEIGNED EPILEPSY.

CASE OF JAMES CLEGG, THE "DUMMY CHUCKER."

In a paper read before the Association of Medical Superintendents of American Institutions for the Insane, at Philadelphia, 1880, Dr. Carlos F. MacDonald, Superintendent of the Binghamton Asylum for the insane, gives a most interesting as well as an amusing account of a very remarkable case of epileptic malingering. Dr. MacDonald premises with a brief historical sketch of feigned illness, the first case mentioned being that of Jacob's favorite wife Rachel, who pretended sickness for the purpose of concealing the stolen idols of Laban. As regards frequency, epilepsy probably occupies the first rank, the reason for this being that the "fit" by its mode of onset offers great advantages. Fortunatus Fidelius states that feigned epilepsy was of frequent occurrence in the sixteenth century. Writers upon this disease, according to Dr. MacDonald, devote but little space to the subject of simulation, while some of them do not mention it; among the latter stands Echeveria, who wrote a classical treatise on epilepsy. Distinguished American authors refer only cursorily to feigned epilepsy. The same is true of various writers on medical jurisprudence. Dr. Ray, in his work on Medical Jurisprudence of Insanity, discusses Epilepsy and its Legal Consequences in a space of thirteen pages, but makes no mention of the simulation of this disorder. During the thirty-six years of the publication of the *American Journal of Insanity* not a single case of feigned epilepsy has been reported, nor, so far as Dr. MacDonald is aware, has any writer reported a case occurring in this country.

From these facts Dr. MacDonald concludes that simulated epilepsy must be comparatively rare in America, as it can hardly be supposed it would escape the attention of *all* the writers mentioned. A writer in the *British Journal of Mental Science* for October, 1865, says, "A 'fitty pauper' is well-known in certain parishes. Feigned epilepsy is a profession, a source of revenue, an appeal to sympathy." Other foreign authors, Frouseau, Balfour Browne, Esquirol, Marshall, etc., mention, or suppose, cases. But Dr. MacDonald says that literature reports no case in which the motive for feigning epilepsy was similar to that by which Clegg was actuated. He first saw Clegg in March, 1876. The man is about thirty-three years of age, English, unmarried, by occupation a thief. Is small in stature, slender, has small, dark, closely set eyes; straight, brown hair, which grows low upon the forehead. His

features are somewhat disfigured by scars and the absence of a tooth; countenance not altogether disagreeable, but, when *unmasked*, indicates considerable cunning and shrewdness; his voice is pleasant, and he frequently smiles when in *natural* conversation. Reads and writes fairly well.

Clegg's first crime, committed at the age of nine years, was the robbery of his father's cash-box. He continued to pilfer until sixteen years old, when his father died. The boy then ran away from home to an obscure portion of the city where he "kept house with a girl." He paid expenses by picking pockets. His mother found him, caused his arrest, and forced him to return to his home, where he promised to behave. "But," says he, "a square life I could not lead, so I determined to lead a crooked one." He again fled from home, and rejoined his female companion, and resumed pocket-picking. After a time he got into a den of thieves, of whom one McCarty was what is known among criminals as a "dummy chucker," that is, a person who feigns fits in public places, while his companions pick pockets among the crowd which gathers about him. McCarty took a fancy to Clegg, and from books and by example taught him the art of dummy chucking. The youth proved an apt scholar.

They took excursions together to various places, McCarty chucking dummies while Clegg picked pockets among the gaping crowd. McCarty's subsequent arrest and imprisonment afforded Clegg an opportunity to assume the rôle of dummy chucker, which he did successfully. He says that in London he has frequently been placed in a cab and driven to the office of a physician or to a hospital, where he has kindly been "brought to" without having once been detected, or, so far as he knew, even suspected of being an impostor. Finally, however, on one occasion, having chucked a dummy whereby his confederate was enabled to steal a valuable watch, he was arrested as an accomplice. A criminal lawyer whom he engaged to defend him advised him to "chuck a dummy in the court." Clegg accordingly, as he says, "chucked a beautiful dummy," whereupon a medical officer was summoned, and, after a careful examination, pronounced him "a bad case of epilepsy," and he was accordingly "honorably discharged." Clegg says there was a jollification over him when he returned to the "paddingken," and after that he was regarded as the "head dummy chucker." Having thus distinguished himself in the estimation of his associates, he was sought after by the most skillful pickpockets; with these he operated, attending services at fashionable churches, chucking dummies in the aisles when the congregation was passing out, while his fellows picked pockets. He would also attend funerals of persons of note, and, apparently overcome at sight of the corpse, would fall down in a "fit." He says: "Many a time have I chucked a dummy while looking at the corpse, and caused an excitement while the other boys plundered the poor flats." Becoming known to the authorities in London, Clegg, in 1865, departed for Scotland, in company with his friend McCarty. By this time he had acquired such proficiency in his "art" that his old master delegated that branch of the "business" exclusively to him. Reaching Glasgow, they attempted to execute a robbery, which is best described in Clegg's own language: "We learned that a certain shipbuilder in Greenock paid his men every Saturday, and that the money to pay them with was brought from a bank in Greenock every Saturday

morning. So we engaged another fellow to go with us and help get it. We were to meet the messenger coming from the bank with the money, and I was to chuck a dummy right before him on the sidewalk while the other fellows would bustle [jostle] him, and McCarty would snatch the bag and get away to Glasgow, where we would all meet. Well, you see, we had everything down as fine as could be, and felt sure we would succeed. So away we went down on the first train on Saturday morning, and hung around the place till we saw our marker with the bag. I went before him and chucked a beautiful dummy while he was walking down one of the principal streets; McCarty snatched the bag, but did not get far away with it. He was collared about two blocks from where I lay in the dummy. Of course I had to come to and hurry away out of sight, when I heard the people talking about what had happened, so I escaped again and poor McCarty got six years at Perth." After this exploit, Clegg again returned to his native town. Here he was arrested, convicted, and sentenced to prison for a term of twelve months at New Bailey. While undergoing this, his first imprisonment, Clegg, in an altercation with a turnkey, stabbed him three times with a knife. The turnkey's wounds not proving immediately fatal, Clegg was indicted for attempt at murder. While awaiting trial he had several "fits," which induced his counsel to defend him on the ground of "temporary insanity due to epilepsy." Medical evidence was adduced at the trial to show that he was an epileptic, and, consequently, not wholly responsible for his acts at the time of the stabbing. The defense was so far successful as to secure for him a mitigated sentence to seven years of penal servitude. He was now transferred to Milbank prison, in accordance with the custom, to undergo nine months of solitary confinement prior to being put to labor upon the public works. Clegg says that every convict at Milbank is subjected, when received, to a rigid medical examination to determine if he is fit for "able-bodied service." "When the doctor examined me," said he, "he pronounced me an epileptic, by the expression of my eyes, and I was put away among the other fit cases who were treated better than the well convicts." Tiring of life at Milbank, Clegg "recovered" sufficiently to obtain a transfer to Chatham, an "able-bodied station," where he remained about eighteen months, but not liking the work there the "fits" reappeared with marked severity.

It appears that the medical officer at Chatham Prison was suspicious of him, and subjected him to several severe tests before making a transfer. Clegg says, "I had to undergo a good deal before I got sent away from Chatham, such as having a lance shoved under my finger nails and stuff (probably irritants) put into my eyes whenever I used to chuck a dummy. But I never flinched, and at last the doctor sent me away to Woking as a bad epileptic case." Clegg remained at Woking about two years, spending most of the time in the hospital as "the worst epileptic case there, according to the doctor's statement." Being confined so much with epileptics, while in prison, Clegg improved his opportunities for clinical observation, and familiarized himself with the various symptoms and conditions which they exhibit in the intervals of the paroxysms, as well as with the medical treatment they received, a knowledge which he afterwards frequently turned to advantage in carrying out his deceptions. From Woking he was transferred to Dartmoor, a

"convalescent station," which he describes as being "a very cold and dirty prison," and adds: "but that did not make much difference to me, for I was always in the hospital. I never let up chucking my dummies, because they were the means of saving me from a great deal of trouble and hard work." At the end of six months at Dartmoor, Clegg, with several other invalid convicts, was transferred to Parkhurst Prison, Isle of Wight, because, he said, the doctor was afraid he would hurt himself in a fit. "When we got to Southampton," said Clegg, "I chucked a beautiful dummy to get the keeper to undo the chain we was fastened together with, but he would not do that, and the people that gathered around was for throwing him into the water, for they all pitied me, seeing me in convulsions. However, he managed to get us over to the prison, where I was put into the hospital." The doctor at Parkhurst was a very "severe" man. "He had been in the army, and was up to all the tricks." When making his rounds in the hospital one morning, Clegg, who had been waiting for an opportunity to "establish his case," chucked a dummy "right before him," remaining in convulsions about an hour. The doctor pronounced him "a severe case of epilepsy," and ordered him a pint of porter, daily, "to keep up his strength."

After spending three or four months in the hospital at Parkhurst, Clegg again "improved" sufficiently to be sent out at "light work" — picking oakum — but still occasionally having a "fit." At Parkhurst were quite a number of epileptics, several of whom were simulators. Conviction of one of the latter created suspicion concerning the others, including Clegg, who, learning that he was suspected, resolved upon a desperate method of convincing the officials that *his* was a genuine case. One Sunday morning, when going from his cell, which was located in the third tier, to the chapel, he chucked a dummy on the corridor, rolled off, and fell to the floor below, a distance of nearly thirty feet. In this adventure he sustained greater injury than he anticipated, although not expecting to escape *all* damage. By the fall he knocked out a front tooth, disfigured his nose, and lacerated his face and head. Unconsciousness this time was real, and lasted for twelve hours. That "fit" removed all doubt as to the genuineness of his case, and secured for him the confidence and sympathy of the officials. He was retained in the hospital about four months, was allowed extra diet, such as eggs and porter, and was "treated first-rate." The doctor also caused padded cells to be provided for all the epileptics in the prison.

(To be continued.)

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 18, 1880.

Cities.	Population estimated.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				The Principal "Zymotic" Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York.....	1,209,561	651	244	21.66	17.51	11.06	5.84	.92
Philadelphia.....	846,980	391	90	19.95	6.65	3.07	1.79	4.35
Brooklyn.....	566,689	283	116	27.56	17.67	20.85	1.41	—
Chicago.....	503,298	189	82	29.63	11.11	21.16	3.17	.53
St. Louis.....	—	108	46	12.04	16.67	3.70	1.85	.93
Baltimore.....	393,796	190	84	24.74	10.00	12.63	7.37	2.63
Boston.....	363,938	187	63	23.00	12.30	15.51	—	1.60
Cincinnati.....	280,000	123	32	10.57	19.51	4.06	1.62	3.25
New Orleans.....	210,000	107	21	19.63	4.67	7.48	2.80	.93
District of Columbia.....	180,000	82	26	19.51	13.41	9.76	2.44	1.23
Cleveland.....	160,000	—	—	—	—	—	—	—
Pittsburgh.....	156,649	76	38	31.58	18.42	14.47	11.84	2.63
Buffalo.....	155,159	53	14	26.42	9.44	18.87	3.77	1.89
Milwaukee.....	127,000	60	35	33.33	11.67	10.00	15.00	3.33
Providence.....	104,862	43	10	16.28	11.63	9.30	2.33	—
New Haven.....	63,000	26	7	11.54	11.54	7.69	—	—
Charleston.....	57,000	31	15	9.68	22.58	6.77	—	3.39
Nashville.....	43,543	15	7	6.67	13.33	6.67	—	—
Lowell.....	59,340	19	9	—	10.53	—	—	—
Worcester.....	58,040	22	7	18.18	9.09	4.54	4.54	—
Cambridge.....	52,860	22	6	18.18	13.63	9.09	4.54	—
Fall River.....	48,626	23	13	26.09	17.39	4.35	—	4.35
Lawrence.....	39,068	—	—	—	—	—	—	—
Lynn.....	38,376	10	5	30.00	10.00	20.00	—	—
Springfield.....	33,536	13	4	7.70	—	7.70	—	—
Salem.....	27,347	15	3	13.33	6.67	6.67	—	6.67
New Bedford.....	27,268	9	4	44.44	—	33.33	11.11	—
Somerville.....	24,964	8	5	37.50	—	37.50	—	—
Holyoke.....	21,961	5	2	20.00	40.00	—	—	20.00
Chelsea.....	21,780	10	4	60.00	—	40.00	—	—
Taunton.....	21,145	8	3	25.50	25.00	12.50	—	12.50
Gloucester.....	19,288	6	2	16.67	16.67	16.67	—	—
Haverhill.....	18,478	4	1	—	25.00	—	—	—
Newton.....	16,994	5	2	20.00	—	20.00	—	—
Newburyport.....	13,470	3	0	—	—	—	—	—
Fitchburg.....	12,270	3	1	—	—	—	—	—
Eighteen Massachusetts towns.....	135,427	42	12	28.57	9.52	14.29	—	4.76

Deaths reported 2842; 1013 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 627, consumption 425, lung diseases 377, diphtheria and croup 324, scarlet fever 102, typhoid fever 51, small-pox 42, diarrhoeal diseases 41, malarial fevers 23, erysipelas 14, cerebro-spinal meningitis 13, whooping-cough 11, measles seven, trichinosis two. From *small-pox*, Philadelphia 40, New York two. From *diarrhoeal diseases*, New York and Brooklyn seven, New Orleans six, Chicago and Boston four, Fall River three, St. Louis and Pittsburgh two, Baltimore, Cincinnati, District of Columbia, Buffalo, Providence, and Pittsfield one. From *malarial fevers*, New York nine, Brooklyn four, New Orleans three, St. Louis, District of Columbia, and Milwaukee two, Chicago one. From *erysipelas*, Brooklyn, Chicago, and Boston three, Cincinnati, District of Columbia, Providence, Lynn, and Clinton one. From *cerebro-spinal meningitis*, New York three, Philadelphia, Brooklyn, St. Louis, Boston, Milwaukee, New Haven, Worcester, Chelsea, Quincy, and Palmer one. From *whooping-cough*, New York and Baltimore three, Philadelphia, Chicago, District of Columbia, Worcester, and Chelsea one. From *measles*, Boston three, New York, St. Louis, Cambridge, and Fall River one. From *trichinosis*, Milwaukee two.

One hundred and forty-three cases of diphtheria, 96 of scarlet fever, five of measles, one of cerebro-spinal meningitis, and one of typhoid fever were reported in Brooklyn; diphtheria 61, scarlet fever eight, in Boston; scarlet fever 60, diphtheria 20, in Milwaukee; diphtheria 18, scarlet fever six, typhoid fever two, whooping-cough one, erysipelas one, in Providence;

scarlet fever three, diphtheria two, typhoid fever one, in Cambridge; diphtheria 10, scarlet fever six, in New Bedford; diphtheria seven, scarlet fever one, in Somerville.

In 36 cities and towns of Massachusetts, with a population of 1,015,108 (population of the State 1,783,086), the total death-rate for the week was 21.32, against 20.43 and 24.18 for the previous two weeks.

For the week ending November 27th, in — German cities and towns, with an estimated population of 7,701,088, the death-rate was 22.5. Deaths reported 3378; 1589 under five: pulmonary consumption 435, acute diseases of the respiratory organs 301, diphtheria and croup 154, scarlet fever 89, typhoid fever 77, whooping-cough 56, measles and röteln 54, puerperal fever 19, small-pox (Königshütte) one. The death-rates ranged from 10.2 in Stuttgart to 33.5 in Breslau; Königsberg 23; Munich 25.1; Dresden 21.2; Berlin 22.6; Leipzig 15.2; Hamburg 23.4; Hanover 19.8; Bremen 12.9; Cologne 31.9; Frankfurt 17.6; Strasburg 26.7.

For the week ending December 11th, in the 20 English cities, with an estimated population of 7,499,468, the death-rate was 20.1. Deaths reported 2882: acute diseases of the respiratory organs 295, scarlet fever 140, whooping-cough 70, measles 69, fever 33, diarrhoea 33, small-pox (London 12, Liverpool one) 13, diphtheria 12. The death-rates ranged from 16 in Sheffield to 27 in Salford; Leeds 17; Birmingham and Bristol 19; London 20; Manchester 23; Liverpool 24. In Edinburgh 21; Glasgow 22; Dublin 27.

The meteorological record for the week in Boston was as follows:—

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
1880.																			
Dec. 12	29.908	29	37	15	67	52	79	66	W	SW	S	8	8	5	O	O		.30	.01 ²
" 13	29.698	40	48	32	90	68	82	80	S	SW	SW	8	4	10	O	O	O	2.10	.02
" 14	29.828	36	50	32	79	51	79	70	W	W	SE	10	7	10	C	F	O	.15	.02
" 15	29.600	39	46	35	81	46	63	63	W	SW	SW	16	20	18	F	F	O	1.30	.02
" 16	29.693	30	39	24	69	52	88	70	W	W	W	10	22	14	F	O	C	3.10	.31
" 17	29.794	21	29	17	69	52	56	59	W	W	W	20	18	15	C	C	C	—	—
" 18	29.741	19	26	14	66	50	68	61	W	NW	W	10	14	15	C	F	C	—	—
Week.	29.752	31	50	14					W	NW	W							7.35	.38

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., smoky; T., threatening.

² Light sleet. ³ Sleet.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 18, 1880, TO DECEMBER 24, 1880.

BAILY, J. C., major and surgeon. Granted leave of absence for one month, with permission to leave the limits of the division, and apply for one month's extension. S. O. 188, Division of the Pacific and Department of California, December 13, 1880.

HEIZMANN, CHARLES L., captain and assistant surgeon. The extension of his leave of absence granted him October 30, 1880, from A. G. O., still further extended two months. S. O. 258, A. G. O., December 18, 1880.

KANE, J. J., first lieutenant and assistant surgeon. Relieved from duty at Fort Cummings, N. M., and assigned to duty at Fort Union, N. M. S. O. 153, District of New Mexico, December 13, 1880.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held on Monday evening, January 3d, at eight o'clock, in the hall, 19 Boylston Place. Reader, Dr. Driver. Subject, Relaxation of the Pubic Ligaments.

A. T. CABOT, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — On the Introduction of Food and Medicine into the Stomach when the Ordinary Channel is Obstructed. By Fred. Humbert, M. D.

Some of the Errors in the Diagnosis of Eye Diseases into which General Practitioners are most apt to Fall. By Samuel Theobald, M. D. (Reprint.)

The Diagnosis and Treatment of Obscure Pelvic Abscess in Women, with Remarks on the Differential Diagnosis between Pelvic Peritonitis and Pelvic Cellulitis. By Paul F. Mundé, M. D. (Reprint.)

Atlas of Skin Diseases. Part VIII. By Louis A. Duhring, M. D. Philadelphia: J. B. Lippincott & Co. 1880.

Report of the Board of Health of the State of Louisiana for the Year 1880.

Lectures on the Surgical Disorders of the Urinary Organs, delivered at the Liverpool Royal Infirmary. By Reginald Harrison, F. R. C. S. Second Edition. London: J. & A. Churchill. 1880.

The Microcosm and other Poems. By Abraham Coles, M. D. New York: D. Appleton & Co. 1881.

The Druggist's Hand-Book of Private Formulas. By John H. Nelson. Sixth Edition. Cleveland, Ohio. 1880.

Yellow Fever: Its Ship Origin and Prevention. By Robert B. S. Harris, M. D. Philadelphia: D. G. Brinton.

Ninety-Eighth Annual Catalogue of the Medical School of Harvard University.

Ligation of the Common Carotid. Excision of the Inferior Dental Nerve. By Lyman B. How, M. D. (Reprint.)

Atresia of the Genital Passages of Women. By Edward W. Jenks, M. D. (Reprint.)

The Uses of Tar Water in Obstetrical and Gynecological Practice. By Joseph Eve Allen, M. D. (Reprint.)



